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POLICY BRIEF

Ontario Moving in the Right Direction on Climate Policy: IISD input on climate policy design to the Ministry of the Environment

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Summary

A proposed move by Ontario to establish elements of a carbon pricing system is a major step forward for climate policy. This move forward could define how a provincial system covering multiple sectors might be viewed under federal equivalency. It also provides another opportunity to establish carbon bridges between sectors and jurisdictions to keep compliance costs low. Importantly, it provides an opportunity for Ontario to implement cost-effective policy that minimizes competitiveness impacts. Our modelling suggests that with the current proposals contained in the discussion document, *Greenhouse Gas Emissions Reductions in Ontario: A Discussion Paper,* compliance costs could be well below $15 per tonne in 2020 if full compliance flexibility is enabled. Emission reductions could be in the order of 3 megatonnes (Mt), or 7 per cent below forecast 2020 industrial emissions.

Design matters, however, and we recognize the importance of balancing costs with emission reductions. Still, we think the current proposal of a 5 per cent decrease in industrial emissions and electricity sector stabilization against a fixed base year could be increased somewhat under a cap-and-trade system with full compliance flexibility. Permit allocations have a greater impact on cost outcomes than the compliance target, and care is needed to avoid adverse competitiveness outcomes, but also to avoid overcompensating firms through free allocations.

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About this Note

IISD is pleased to submit this policy brief in response to the Ministry of Environment's (MOE) request for input on *Greenhouse Gas Emissions Reductions in Ontario: A Discussion Paper*. This policy brief is divided into two parts. The first section discusses key policy trends and considerations that support Ontario's path forward on greenhouse gas (GHG) carbon mitigation. The second section comments on elements of the mitigation plan, using original economic, energy and emission modelling and observations to provide recommendations to MOE.

Federal Equivalency Agreements and Carbon Pricing

The historical lack of a unified federal GHG policy has led many provinces to develop their own approach to GHG control. Nationally, we now see a mix of carbon pricing and regulatory policies as diverse as Canada's federation itself. But the field has now changed, as the federal regulator moves to industrial GHG emissions under a sector-by-sector regulatory approach. The initial movement of federal GHG regulations in the electricity sector marked the potential for conflict over jurisdictional control of carbon policy. But then the equivalency agreement reached between the federal government and Nova Scotia signalled a federal preference to recognize provincial regulations in place (Government of Nova Scotia, 2012).

While the movement to defer to provincial policy instead of preempting it was good, the lack of compliance flexibility in the electricity sector regulations troubled many. This concern was compounded when the "politicization of instrument choice" seemed to preclude the use of carbon pricing as a core federal policy instrument (Sawyer, Beugin & Gass, 2012). In 2012, when the politicization was entrenched under the "job killing carbon tax" refrain, many provincial regulators and regulated entities became more concerned over possible inflexible and high-cost federal regulations. Recently, however, there seems to be a rising tolerance by the federal regulator to use equivalency agreements to enable compliance flexibility in some sectors, and for provincially led carbon pricing specifically (Wherry, 2012). Negotiations underway for the emerging oil and gas regulations also indicate a rising federal tolerance for using carbon pricing that is provincially led (Vanderklippe, 2013).

Given recent federal signals, it looks as though an Ontario GHG policy based on carbon pricing could be viewed as equivalent policy under a federal system. While details of how to define "equivalent" policy need to be sorted out, it seems prudent for Ontario to push forward a carbon pricing scheme at this time to preempt federal sector regulations.

Building Carbon Bridges Under a Unified Provincial Plan

With the future of Canadian federal mitigation policy falling into place, the question of how the province will approach equivalency is critical. A federal preference for a series of sectoral GHG targets is one approach. But there are barriers to a sector-by-sector approach, where each sector is dealt with individually. First, they create mitigation islands limiting low-cost compliance. Next, they take time to develop. Regulatory development processes are already complex, and including equivalency in the sector-by-sector discussions only adds an additional layer to complexity. As the development process for coal-fired electricity generation exemplified, regulatory processes can often be quite long (Auditor General of Canada, 2012) and, especially when focused on new sources, can entail long implementation periods with few reductions up front.

Conversely, Ontario's approach to addressing all industrial sectors under an umbrella program has the potential to deliver a range of good policy outcomes.

Improved cost-effectiveness. An umbrella program based on carbon pricing will lead to lower compliance costs relative to a sector-based approach. Compliance flexibility is key to cost-effectiveness, as pointed out in the discussion document, where policy needs to balance cost containment with emission reductions.

Expedient and credible program delivery given current trading experience. Ontario can benefit from its considerable experience in implementing cap and trade under O. Reg. 397/01 and 194/05, with expertise enabling more expedient and effective program delivery.

Prepare for linking now to keep long-term costs down. With Western Climate Initiative (WCI) membership, Ontario should build on current WCI system design, whether or not linking is to be pursued initially. Over the long term, as more Ontario reductions are sought or emissions coverage is expanded, it would be prudent to prepare for linking from the start to allow for longer-term, cost-effective mitigation. Building on current Quebec and California program design would also add to expediency and credibility.

Assessment of the Mitigation Plan

Ontario is seeking input on several areas that will influence the development of a mitigation framework. IISD offers the following preliminary suggestions on targets, compliance flexibility, coverage thresholds, competitiveness, and integrating mitigation and adaptation.

We provide some original modelling to help inform our input. Modelling is based on CIMS runs we have completed for a variety of projects over the last few years. Based on the emissions coverage and stringency indicated in the discussion document, we developed a policy analysis model to highlight possible GHG and cost outcomes. These results are at best approximate, intended to provide a general view of the possible outcomes of alternative policy choices.

Proposal details are scarce in the discussion document, requiring us to make the following assumptions to complete the modelling:

- Policy covers all industrial facilities, including fired electricity generation and large emitters from petroleum refining, chemicals (including fertilizer manufacturing), steel, cement, and pulp and paper sectors.
- Covered emissions are, in our forecast, 44.4 Mt in 2015 and 45.6 Mt in 2020, or 1.35 Mt growth. We assume no thresholds for coverage, which implies that we overstate compliance and total cost.
- Compliance year is 2015. We choose this compliance period because it aligns with our existing modelling. Consistent with the discussion document, compliance targets are:
    - The electricity sector target is stabilization in 2015.
    - All other industrial emitters are 5 per cent below 2015 GHG emissions in 2020.

Below we provide some insight on the cost of and GHG implications on targets and compliance.

Emission Reduction Targets

For covered emissions, the GHG target in the discussion document translates into 42.5 Mt in 2020, which is a 3.1 Mt reduction or a 7 per cent improvement below our 2020 forecast. In our scenario, this translates into a 2 per cent reduction in Ontario's total emissions in 2020.

Absent new policy, some sectors would lower emissions in 2020 relative to 2015. In our forecast, petroleum crude extraction, petroleum refining, some mineral mining and paper manufacturing all exceed their 5 per cent by 2015 target in our baseline forecast. While this result may or may not be correct, it does point to an important conclusion:

The emission reduction target should not be shared equally across all emitters, given that some may be decarbonizing more than the 5 per cent GHG target in the baseline. Effort should be made by MOE to verify emission forecasts for industry, and avoid creating "hot air" and overcompensating under a cap-and-trade scheme.

Flexible Compliance Options

There are a number of flexibility options available to Ontario. Emissions trading mechanisms, technology funds and offsets can meet this need and keep compliance costs reasonable. In this section, we use modelling results to explore some design choices that Ontario could make for a GHG cap-and-trade system if implemented.

- **Flexibility is necessary for the industrial sector to keep costs low and achieve targets.** Our modelling suggests that an inflexible **sector-by-sector regulatory approach** used to achieve the 5 per cent reduction target (and electricity stabilization) could require average compliance costs in the order of $80 per tonne. Modelling also suggests that some sectors may not be able to comply on their own, even at higher compliance costs, putting target attainment in jeopardy. Flexibility is therefore central to minimizing the competitiveness impacts on Ontario's emerging GHG policy and for delivering emission reductions.
- **Emissions trading could significantly lower costs relative to inflexible sector-by-sector regulations**. A well-designed and functioning GHG emission trading system aligned to achieve the 5 per cent target could lower carbon costs by more than half relative to a sector-by-sector focused scenario. Permit prices for an **industry-only carbon-trading scheme** (i.e., no offsets or trading outside of Ontario) could be in the range of $30 per tonne with total annual compliance costs of $60 million (assumes free allocations including electricity; we revisit free allocations to electricity below). For the same GHG target, emissions trading could reduce costs relative to the sector-by-sector regulatory approach in the order of 2.5 times.
- **Adding offsets or WCI linking could significantly reduce costs.** With the addition of **Ontario-based offsets** as a compliance mechanism, compliance costs under emission trading drop significantly in our scenario. For the same targets as the trading without offsets scenario, carbon (permit) prices are in the range of $11, with costs of $12 million annually. This is about 20 per cent lower than the industry-only carbon-trading scheme above (i.e., no offsets scenario). Trade linked with the WCI would likely result in a similar outcome given current WCI auction prices at $13. Whether or not Ontario would be a net seller or net buyer of permits is an open question, and so it is not possible to comment on capital flight under a linked scenario at this time.

- **Auctioning would increase firm costs, but not all firms need free allocations to remediate competitiveness impacts.** Free allocations are one way to address adverse competitiveness impacts on emission-intensive and trade-exposed (EITE) sectors. Free allocations can reduce the average cost of the policy by not requiring firms to purchase permits to cover their remaining emissions once mitigation has occurred. In our "trading with offsets" scenario above, fully auctioned permits would add another $445 million compliance costs on top of the $12 million in abatement costs. But there are risks for free allocations to address EITE concerns. Recent competitiveness analysis indicates that some industrial sectors in Ontario are likely to be EITE (Sawyer, 2013), but not all (Figure 1). Facilities claiming carbon hardship will likely exceed what a thoughtful analytical process would determine needs remediation.[1] With the European Union Emissions Trading Scheme (EU ETS) showing that free allocations could overcompensate some firms (McGione, 2013), care must be taken when firms claim EITE hardship.
- **The electricity sector should not receive free allocations**. EU ETS experience shows that when the electricity sector receives free allocations, they pass on the cost of the freely acquired emissions permits to customers, resulting in windfall gains (Point Carbon Advisory Services, 2008).

The next few sections provide some qualitative insight on the mitigation plan.

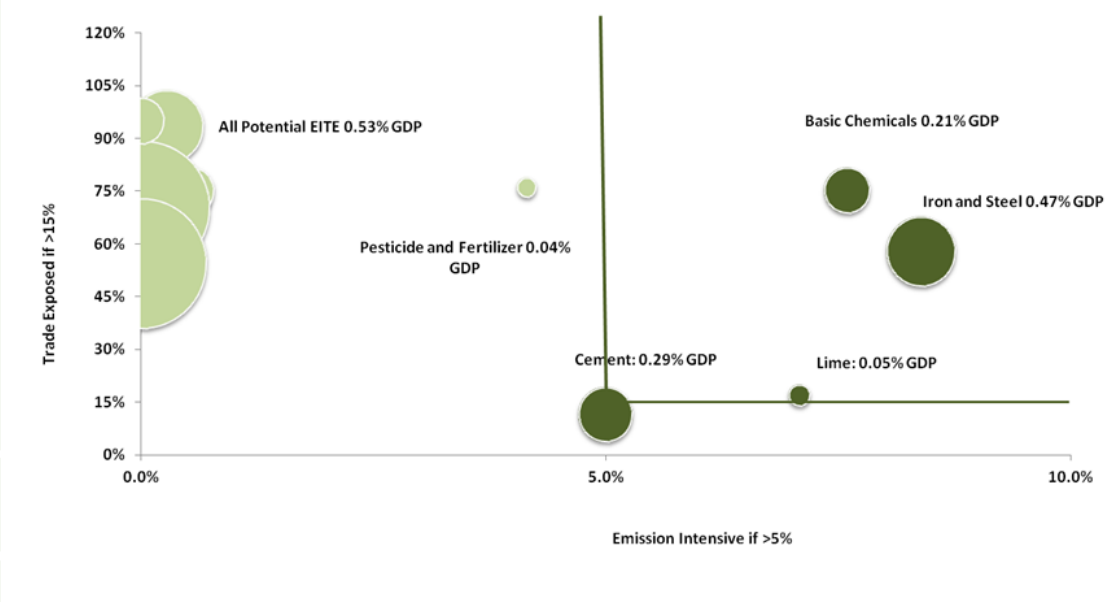

FIGURE 1: EITE DESIGNATION UNDER $40 CARBON PRICE

Source: Sawyer (2013)

[1] Such as that contained in O. Reg. 419/05, where competitiveness assessments guide remedial options.

Coverage Threshold

Ontario could adopt a 25,000 tonne threshold to increase coverage and prepare for eventual carbon market linking with Quebec and California. In considering its approach to coverage, Ontario can borrow from the experiences of other provinces and Environment Canada regulatory development to determine appropriate thresholds for entities. The need to ensure equivalency with federal regulatory requirements will be a major influence. In addition, if the province were to pursue cap and trade, and wishes to link with California and Quebec in future, a 25,000 tonne threshold would be needed. It will also be important for the province to engage stakeholders that will be affected by coverage requirements. In general, however, lower thresholds provide more effective coverage of provincial emissions and, as a result, heighten the impacts of GHG mitigation policies.

Sectoral Competitiveness Considerations

The discussion paper poses two related questions regarding which sectors should be covered and how a program can be designed to address competitiveness concerns. First and foremost, consideration of which sectors should be covered will be influenced by the federal government's sector-by-sector regulatory approach. Regulatory development processes are underway in several sectors in 2013. With the potential for a number of sectors to be covered across the country either through regulation or equivalency, hopefully uneven sector coverage will be addressed across provinces and mitigated somewhat. With a fragmented provincial landscape, however, it will be essential for Ontario to carefully study other provincial approaches to sectoral coverage. Even more importantly, consideration must be given to U.S. policies that are emerging at the regional and federal levels. Our suggestion is to identify potential competitiveness issues early and work to ensure that major carbon pricing misalignment does not occur.

Integrated Approaches: Linking Adaptation and Mitigation in Decision-Making

Integration of adaptation and mitigation in decision-making involves consideration of the adaptation impacts of mitigation actions (and vice versa). Integrated approaches not only allow for stronger policy development, but also strengthen consideration of economic and social impacts along with environmental and climate change impacts in policy development. Integration also helps the province identify areas where co-benefits can be achieved and minimizes the potential for negative side effects. This link ensures that Ontario's climate change strategy promotes green growth in a sustainable manner and that climate change policy decisions are embedded in various relevant ministries. Ontario has a number of other supporting policy frameworks that can be drawn upon in this regard, including the province's adaptation strategy and action plan (Government of Ontario, 2011)

Key Messages

IISD offers the following key messages as suggestions to the Government of Ontario in developing its approach to GHG mitigation:

- A united carbon-pricing scheme is a good choice for Ontario's industrial sectors, bypassing risks of federal sector-by-sector GHG policy. Achieving equivalency with a carbon-pricing scheme looks more likely as federal preferences are revealed through ongoing oil and gas negotiations.
- A well-designed cap-and-trade system for industrial emitters can deliver cost-effective mitigation and deliver expedient reductions.

- The scheme from the start should be oriented to align with the California and Quebec cap-and-trade systems to allow for the eventual linking of emission markets. This would temper the risk of high-cost abatement should sector coverage be expanded or the abatement target increased.
- Our modelling suggests that flexibility is central to low-cost compliance, and any future system should enable high degrees of flexibility to obtain emission reductions outside of the industrial sectors, including emission reductions from unregulated entities outside of the industrial sector.
- How permits are allocated is central to cost outcomes and not necessarily emissions outcomes.[2] Theoretical and empirical evidence suggest that free allocations are a two-way street: they can address competitiveness impacts, but they can also overcompensate firms, allowing for windfall profits. Care must therefore be taken in designing the allocation scheme and accepting industry claims of financial hardship.

We applaud Ontario for talking a bold step forward. While the policy proposal seems sound, a system with a high degree of compliance flexibility could perhaps have more GHG ambition. IISD would be pleased to work with MOE to explore this point in more detail.

[2] Output-based allocation schemes can provide an implicit subsidy to production.

Works Cited

Auditor General of Canada. (2012). Meeting Canada's 2020 climate change commitments. In *2012 Spring report of the Comissioner of the Environment and Sustainable Development*. Retrieved from http://www.oag-bvg.gc.ca/internet/english/parl_cesd_201205_02_e_36774.html#hd5d

Government of Nova Scotia. (2012, September). *Greenhouse gas emissions from the electricity sector: Canada and Nova Scotia draft equivalency agreement*. Nova Scotia, Canada.

Government of Ontario. (2011). *Climate ready: Ontario's adaptation strategy and action plan 2011–2014*. Toronto: Queen's Printer for Ontario.

McGione, C. (2013, January 4). EU ETS £250m compensation scheme needs "tightening" warn MPs. edie*Energy*. Retrieved from http://www.edie.net/news/6/EU-ETS-250m-compensation-scheme-needs-tightening-warn-MPs/23782/

Ontario Ministry of the Environment. (2013). *Greenhouse gas emissions reductions in Ontario: A discussion paper.* Toronto: Queen's Printer for Ontario.

Point Carbon Advisory Services. (2008, March). EY ETS Phase II: The poential and scale of windfall profits in the power sector. Retrieved from https://www.google.ca/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0CEsQFjAD&url=http%3A%2F%2Fassets.panda.org%2Fdownloads%2Fpoint_carbon_wwf_windfall_profits_mar08_final_report.pdf&ei=A2NsUeyWFMHYywGs1ID4Cw&usg=AFQjCNHYg69-tZauuE-IRbgo5-y5SegTkA&sig2=oTAZhcYgJ23vaT8tpFKCKA&bvm=bv.45175338,d.aWc

Sawyer, D., Beugin, D. & Gass, P. (2012). *Regulating carbon emissions in Canada: Canadian carbon policy year in review and emerging trends*. Winnipeg: IISD.

Sawyer, D. (2013). *Carbon exposed or carbon advantaged? Thinking about competitiveness in carbon-constrained markets*. Retrieved from http://www.sustainableprosperity.ca/dl949&display

Vanderklippe, N. (2013, April 9). Alberta, industry face wide gap on carbon tax. *Globe and Mail*. Retrieved from http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/alberta-industry-face-wide-gap-on-carbon-tax/article10911280/

Wherry, A. (2013, April 15) What exactly is Peter Kent's position on carbon pricing? *Macleans*. Retrieved from http://www2.macleans.ca/2013/04/15/what-exactly-is-peter-kents-position-on-carbon-pricing/

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