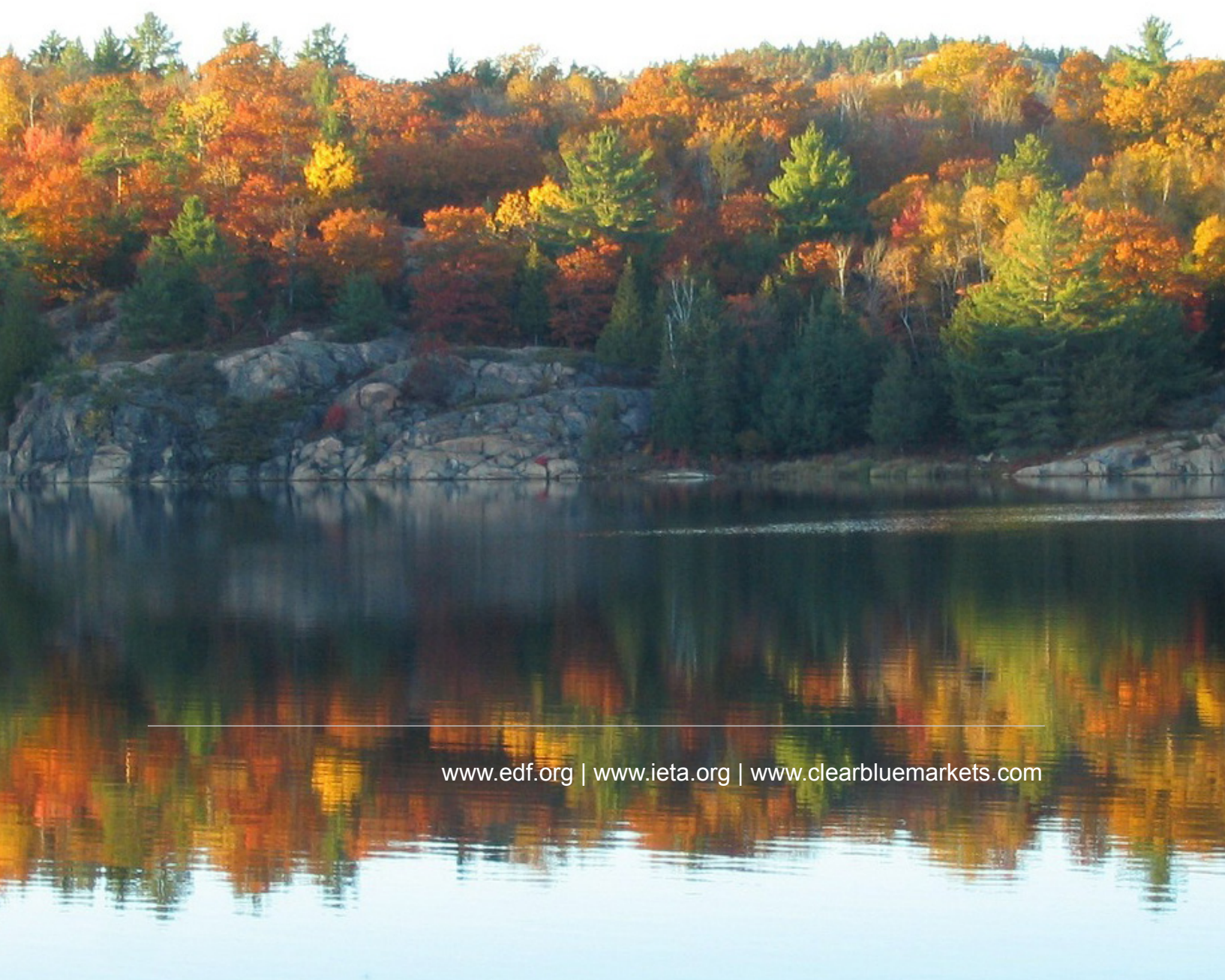


JAN / 2018



ONTARIO:

An Emissions Trading Case Study



www.edf.org | www.ieta.org | www.clearbluemarkets.com

Background

Canada built on the momentum of the Paris Agreement by developing a Canadian approach to meet its Nationally Determined Contributions of 30% below 2005 by 2030. This Pan-Canadian Framework on Clean Growth and Climate mandates that all Canadian provinces and territories have explicit carbon pricing in place by 2019. Should a jurisdiction be unable to implement this explicit pricing program – either through a cap and trade system or carbon levy/output-based performance standard pricing system – a federally-imposed hybrid

pricing mechanism (rising \$10/year to \$50/tonne in 2022) will be imposed.¹ Like Quebec's system, Ontario's existing cap and trade program is not expected to be dramatically affected by these Federal Government carbon pricing actions. In February 2016, Ontario proposed the Climate Change Mitigation and Low Carbon Economy Act (CCMLCA) followed by extensive consultation with industry, environmental organizations, citizens First Nations/ Métis representatives, NGOs and municipalities through April 2016.

Ontario passed the historic CCMLA based on the feedback and support from this comprehensive stakeholder process. This Act lays-out the key design elements of Ontario's compliance cap-and-trade program including ambitious targets through 2050, the intention to join the WCI, the economic goals including job creation, and the transparent investing of cap-and-trade proceeds into programs. Ontario's cap-and-trade program has been designed through close policy coordination with Quebec and California, in order to ensure



Summary of Key Policy Features

Reduction Goals	<p>By 2020: 15% reduction from 1990 GHG levels</p> <p>By 2030: 37% reduction from 1990 GHG levels</p> <p>By 2050: 80% reduction from 1990 GHG levels</p>
Cap	<p>2017: 142.3 million tCO₂e (decline by 4.17% per year)</p> <p>2018: 136.4 million tCO₂e</p> <p>2019: 130.6 million tCO₂e</p> <p>2020: 124.7 million tCO₂e</p>
Carbon Price	\$18.19 CAD (average of the 4 auctions in 2017)
Compliance Periods	<p>First compliance period 2017 – 2020 (4 years)</p> <p>Subsequent compliance periods are three calendar years, in line with California and Quebec</p>
GHGs Covered	CO ₂ , CH ₄ , SF ₆ , N ₂ O, NF ₃ , and other fluorinated gases (HFCs, PFCs)
Percentage of Economy-wide Emissions Covered	Approximately 85%
Sectors Covered	Covered sectors are large stationary sources (refineries, oil and gas production facilities, food processing plants, cement production facilities, and glass manufacturing facilities) that emit more than 25,000 tCO ₂ e annually, electricity imports. Distributors of transportation fuels, natural gas, and other fuels are also covered. Fuels exclusively for aviation or marine use are not covered.
Economy-wide GHG Emissions (By Sector)	<p>Electricity generation (without imports): 9 MtCO₂e</p> <p>Transport: 59 MtCO₂e</p> <p>Industry: 51 MtCO₂e</p> <p>Buildings: 35 MtCO₂e</p> <p>Agriculture: 10 MtCO₂e</p> <p>Waste: 9 MtCO₂e</p>
Number of Covered Entities	247 (based on Ontario CITSS accounts in November, excluding market participants)
Point of Regulation	With a few exceptions, electricity generation is not directly regulated, as the gas distributors are the point of regulation, including for gas-fired power plants (there is no more coal-fired power generation in Ontario). Electricity imports are regulated upon delivery into the province. Large industrial facilities are regulated at the source. Transportation fuels are regulated at “the rack” prior to distribution.
Threshold	<p>Mandatory Participants: > 25,000 tCO₂e</p> <p>Mandatory Participants: > 200 L fuel supply per year</p> <p>Voluntary Participants: 10,000 tCO₂e – 25,000 tCO₂e</p>
Use of Revenues	Through the Climate Change Action plan, revenues by law must go into greenhouse gas emissions reductions programs. This includes: Green Ontario fund for homeowners, social housing, municipal support, Low Carbon Innovation Fund for clean technology, Climate Change Action Plan outlines \$8.3 billion in emissions reductions measures (from 2016 – 2020) estimated to deliver 9.8 MtCO ₂ e by 2020.
Linkages	Ontario has linked its market with Quebec and California (as part of WCI) on 1 January 2018. This means they recognize each other’s compliance instruments, the auctions will be held as joint auctions.
Institutions Involved	Ontario Minister of Environment and Climate Change (MOECC) Western Climate Initiative Inc. (WCI Inc.)
Allowances Allocation	<p>Petroleum suppliers and natural gas distributors must buy 100% of their allowances at auction or in the secondary market. Electricity generators pay for the allowances via the cap and trade costs charged by gas distributors, no free allowances for electricity imports.</p> <p>Other emissions-intensive, trade-exposed sectors can apply to receive free allowances.</p>
Auctions	Quarterly auctions (joint auctions with California and Quebec as of 2018)
Offsets	<p>Offsets may be used up to 8% of an entity’s compliance obligation. This 8% quota cannot be ‘banked’ into the next compliance period. Offsets themselves are bankable. With linkage complete, California and Quebec offsets may also be used for compliance in Ontario.</p> <p>Ontario is developing offset protocols in conjunction with Quebec. As of January 2018, only the landfill gas compliance protocol has been completed. 12 other existing protocols from other (compliance and voluntary) programs are still undergoing protocol review and adaptation.</p> <p>Ontario applies similar rules related to offsets as Quebec: Ontario offsets do not carry an invalidation risk. California offsets being used by Ontario compliance entities still carry an invalidation risk.</p> <p>Ontario is also developing a voluntary offsets program to meet provincially mandated annual (public sector) carbon neutrality goals starting in 2018. Program rules and types of eligible protocols and project types will be finalized in 2018. How the voluntary program intersects with the compliance program is still under consideration.</p>
Early reduction credits	Early reduction credits are offered to facilities that have taken early mitigation action during the years prior to Ontario’s cap and trade launch. Currently, no details on the creation of early reduction credits are available. Ontario plans to engage further on this rule-making activity in 2018. A maximum of 2 million early reduction credits are expected to be made available.

Summary of Key Policy Features

Provisions for Price Management	<p>Reserve (floor) price at auction: As of 2018, Ontario sets its own minimum floor price that will increase annually by 5% plus inflation. Ontario's minimum floor price is CAD \$14.68. The auction reserve price will be set by the highest minimum price between California, Quebec and Ontario, applying the Canadian dollar exchange rate published by the Bank of Canada the day prior to the auction.</p> <p>Allowances reserved for sale: Each year, 5% of total allowances available in Ontario are reserved and therefore not available for auction or distribution for free. Allowances released from this reserve – which can be seen as a soft price ceiling – can only be used for compliance, and not for the secondary market. There are 3 price categories set that increase at 5% plus inflation every year. In 2017, reserve prices were set at \$47.88, \$53.86, and \$59.85.</p>
Banking	<p>Banking between years and into the next compliance period is allowed. Emitters are subject to general holding limits. There is also flexibility on borrowing within the compliance period, but borrowing is not allowed between the compliance periods (allowance vintages from future compliance periods may not be used, with some exceptions).</p>
Monitoring and Reporting	<p>Reporting frequency: Annually Verification: Third party verification is required for capped emitters</p>
Enforcement/Penalties	<p>If an entity fails to surrender sufficient allowances to cover emissions, they must surrender four times the number of missing allowances. Failure to surrender allowances also renders entity liable to a minimum fine of CAD \$25,000/day until allowances are surrendered, with a maximum fine of \$6 million for the first conviction. Individuals liable for at least CAD \$5,000/day with a maximum fine of CAD \$4 million or imprisonment for up to 5 years less one day, or both, for the first conviction. Penalties apply for other violations</p>

Key Dates

Date	Event
18 May 2016	Ontario legislature passes Bill 172, Climate Change and Low-Carbon Economy Act, 2016 and received royal assent
8 June, 2016	Ontario releases new Climate Change Action Plan
1 July 2016	Cap and Trade Regulation takes effect
15 November 2016	Ontario announces consultations on Offsets Credits Regulatory Proposal
1 January 2017	Ontario's first compliance period for cap-and-trade program (until 31 December 2020)
22 March 2017	Ontario holds first cap and trade program auction
6 June 2017	Ontario holds second cap and trade program auction
30 August 2017	Ontario launches the Green Ontario Fund
6 September 2017	Ontario holds third cap and trade program auction
22 September 2017	Ontario signs cap and trade linking agreement with Quebec and California
29 November 2017	Ontario holds fourth (and last in 2017) cap and trade program auction
8 December 2017	Ontario announces programs: GreenOn Industries, and TargetGHG with support from Ontario Centres of Excellence (OCE) under Green Ontario Fund
1 January 2018	Linkage with Ontario, Quebec and California effective
21 February 2018	First Ontario, Quebec and California Joint Auction

Projections

The cap-and-trade program is meant to cover 85% of the provinces total GHG emissions. The proceeds from the cap and trade auction were projected at \$478 million in 2016 – 2017, \$1.8 billion in 2017 – 2018, and \$1.4 billion annually, starting in 2018-2019. According to CCMLA, proceeds from the program must go towards greenhouse gas mitigation. **A breakdown of key Ontario auction revenue redistribution channels is summarized below.**

- a. Supporting homes and businesses adopt low-carbon technologies: ~\$800 million
- b. Modernizing Transit, Active Transportation with commuter cycling infrastructure and regional express rail: ~\$420 million⁶
- c. Implementing Green Investment Fund initiatives and investments: ~\$410 million⁶
- d. Promoting Electric Vehicles through charging infrastructure

- e. Engaging governments and strengthening partnerships through Municipal GHG Challenge fund and municipal climate change plans: ~\$55 million⁶
- f. Enhancing research and development with cleantech development and climate change research: ~\$20 million⁶
- g. Preserving Agriculture, Lands and forests from increased tree planting and soil health: ~5 million⁶

Many of these initiatives come through Ontario's new Green Investment Fund (GIF). In the 2015 Ontario Economic Outlook and Fiscal Review, Ontario announced a \$325 million investment in 2015 – 2016 into the GIF. In December 2015, \$20 million from the GIF helped improve upon transportation infrastructure. In early 2016, \$100 million was invested to help

homeowners retrofit their homes. \$5 million was invested to support climate change adaptation in First Nations communities. ⁶ Ontario has also developed Green Bonds, and on 22 January 2016, launched a \$750 million Green Bond where, to date, Green Bond financing amounts to \$1.25 billion. ⁶

With the exception of the 4th – and final 2017 – Ontario-only auction, the province's quarterly auction results have been in-line with projections. In the last auction, the current vintage cleared at the floor price of CAD \$17.38 and was undersubscribed with only 83% of allowances sold. Surprisingly, the future vintage auction cleared at CAD\$1.51 above the floor at CAD \$18.89, and was fully subscribed.

The total proceeds from Ontario's auctions 2017-2018 was \$1.9 billion, compared to the projected \$1.8billion.

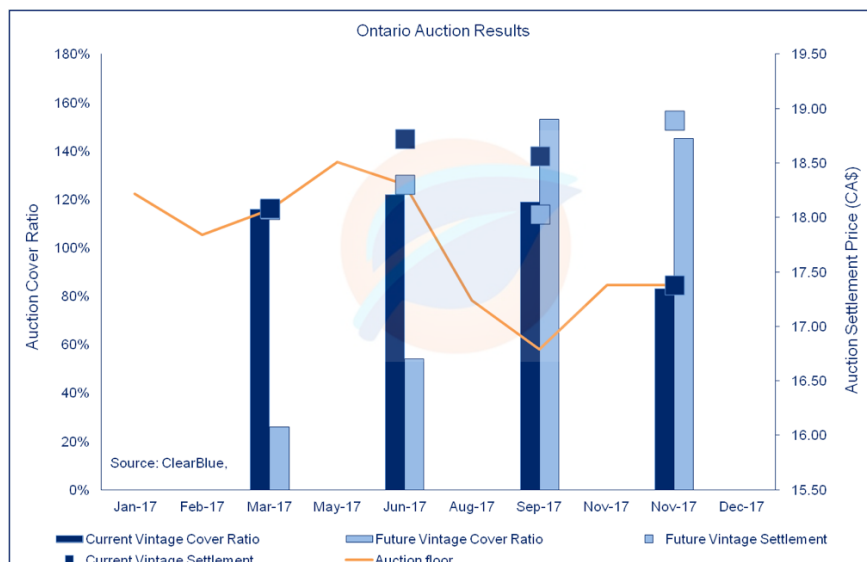


Figure 1: Auction Results

Source: Clearblue Markets

Post 2020 and Next Steps

As of January 1, 2018, Ontario linked with California and Quebec's Cap and Trade programs. Joint quarterly auctions will be held and compliance instruments from Ontario, California and Quebec are eligible for compliance in all three jurisdictions. Post-2020 the cap will decline by 3.6 Mt per year or an average of 2.9%, from 124.7 Mt in 2020 to 88.5 Mt in 2030. The rate of decline post-2020 is less than the current rate of decline of 4.17% during the first compliance period.

Year	Total Cap (tonnes CO ₂ e)
2020	124,668,000
2021	121,058,000
2022	117,438,000
2023	113,818,000
2024	110,198,000
2025	106,578,000
2026	102,958,000
2027	99,339,000
2028	95,719,000
2029	92,099,000
2030	88,479,000

Offsets Commentary

The Ministry of Environment and Climate Change (MOECC) has published Ontario Offset Credits regulation and the Offset Initiative Protocols. Thirteen protocols are expected to be published under Ontario's Offset Initiative Protocols. The Landfill Gas protocol has been published and incorporated into the regulation. As the remaining protocols are adapted and approved by the Minister, they will be incorporated into the regulation on a rolling basis.

CURRENT CHALLENGES

Point 1

With an election coming up in June 2018 and the Progressive-Conservative party leader committed to scrapping the cap-and-trade program, some entities will not see the benefit in purchasing a credit that may devalue and cost money until they feel more aware about the provincial political situation in Ontario.

Point 2

California implemented a 24-month period policy where if an allowance does not get sold, then it will retire, and no longer realized, or will shift into an allowance price containment reserve (APCR) which would have extremely high prices.

Point 3

The price ceiling that California introduces will also affect the Ontario market (even with restrictions on trading). If the price ceiling is reached, this could also mean that Ontario will lose auction revenue.

Point 4

The restrictions on out-of-state offsets that California applies after 2020 could mean that Ontario will receive a large supply of offsets from other US states, reducing offset prices and thus affecting Ontario offset supply.

References

- 1 C. I. C. Secretariat, "Pan-Canadian Framework on Clean Growth and Climate Change," 9 December 2016. [Online]. Available: <http://www.scics.ca/en/product-produit/pan-canadian-framework-on-clean-growth-and-climate-change/>.
- 2 Ontario Ministry of Finance, "2016 Ontario Budget," February 2016. [Online]. Available: https://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/papers_all.pdf.
- 3 MOECC, "Cap and Trade Consultations Summary," [Online]. Available: https://www.ontario.ca/page/cap-and-trade-consultations-summary?_ga=2.82284502.1904193365.1513454015-1288824603.1510595430.
- 4 MOECC, "Ontario Passes Landmark Climate Change Legislation," 18 May 2016. [Online]. Available: <https://news.ontario.ca/ene/en/2016/05/ontario-passes-landmark-climate-change-legislation.html>.
- 5 Ontario Ministry of Finance, "2017 Ontario Budget," 2017. [Online]. Available: <https://www.fin.gov.on.ca/en/budget/ontariobudgets/2017/budget2017.pdf>

Author Acknowledgements

EDF

www.edf.org

Co-authors:
Katelyn Roedner Sutter
Erica Morehouse

Reviewer:
Britt Groosman

Contact EDF:
Katelyn Roedner Sutter
(kroedner@edf.org)

Environmental Defense Fund (EDF)
1107 9th Street, Suite 1070
Sacramento, CA 95814



IETA

www.ieta.org

Co-author:
Katie Sullivan

Contact IETA:
Katie Sullivan (sullivan@ieta.org)

IETA - Toronto Office
481 University Avenue, Suite 703
Toronto, ON
Canada M5J 2M4



IETA
CLIMATE CHALLENGES
MARKET SOLUTIONS

Clearblue Markets

www.clearbluemarkets.com

Co-authors:
Michiel Ten Hoopen
Nicolas Girod

Contact ClearBlue Markets:
Michiel Ten Hoopen
(mtenhoopen@clearbluemarkets.com)

ClearBlue Markets
265 Rimrock Road Suite 201 - Toronto
Ontario, M3J 3C6, Canada



The World's Carbon Markets: A Case Study Guide for Practitioners

www.clearbluemarkets.com | www.edf.org | www.ieta.org

