

# Natural Gas Markets: Key Developments and Outlook

IGUA 2018 Spring Seminar

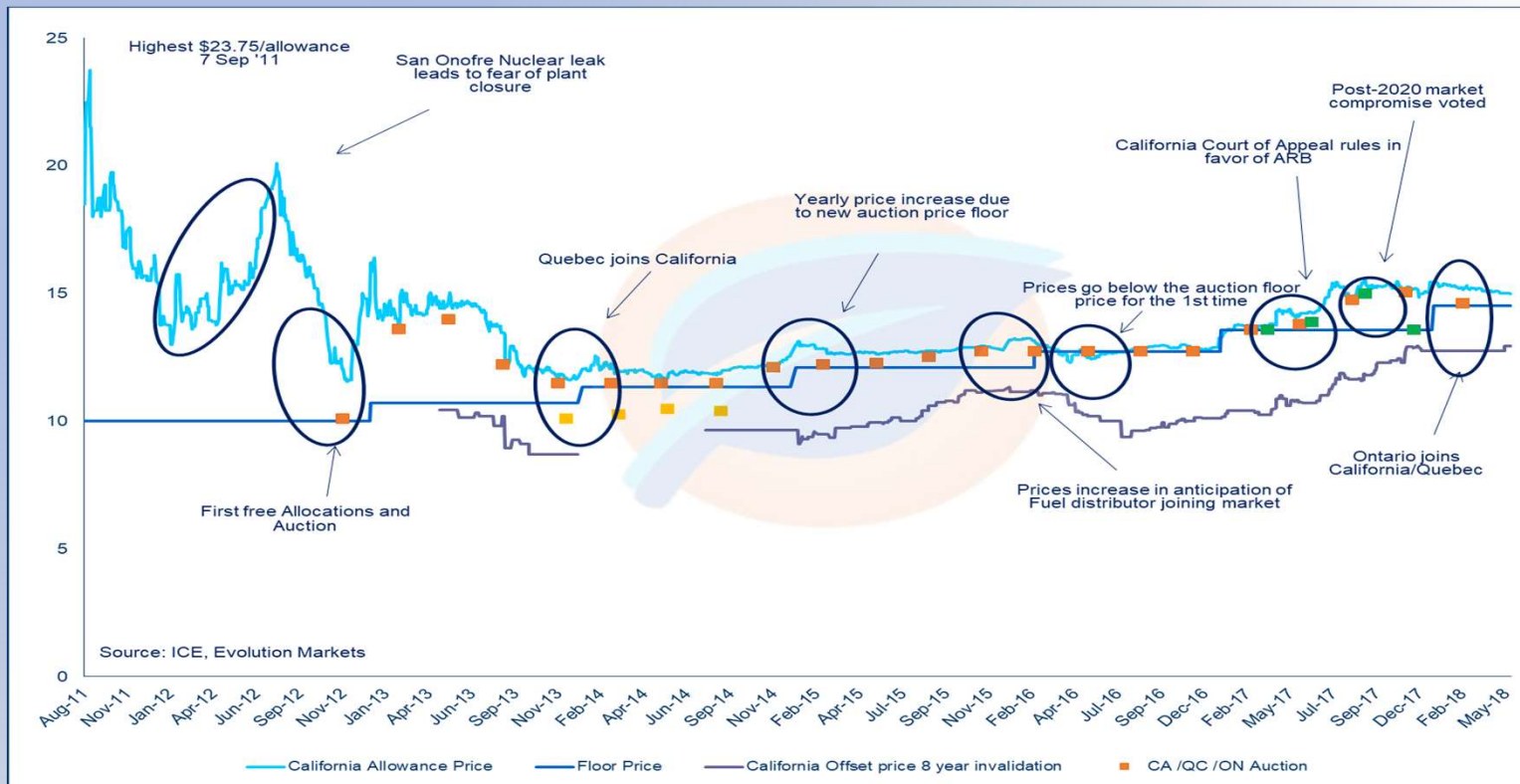
Michael Berends  
May 16, 2018

IGUA | ACIG





# WCI Price Allowance History (USD)



**Floor Price**  
USD\$14.53

**Secondary Market**  
USD\$14.67



# First Tripartite Auction Results

Vintage	Current (V16 & V18)	Future (V21)
Total Allowances Available	98,215,920	12,427,950
Total Allowances Sold	98,215,920	8,576,000
Bid-to-cover Ratio	121%	69%
Auction Reserve Price	USD \$14.53 (CAD \$18.34)	USD \$14.53 (CAD \$18.34)
Settlement Price	USD \$14.61 (CAD \$18.44)	USD \$14.53 (CAD \$18.34)

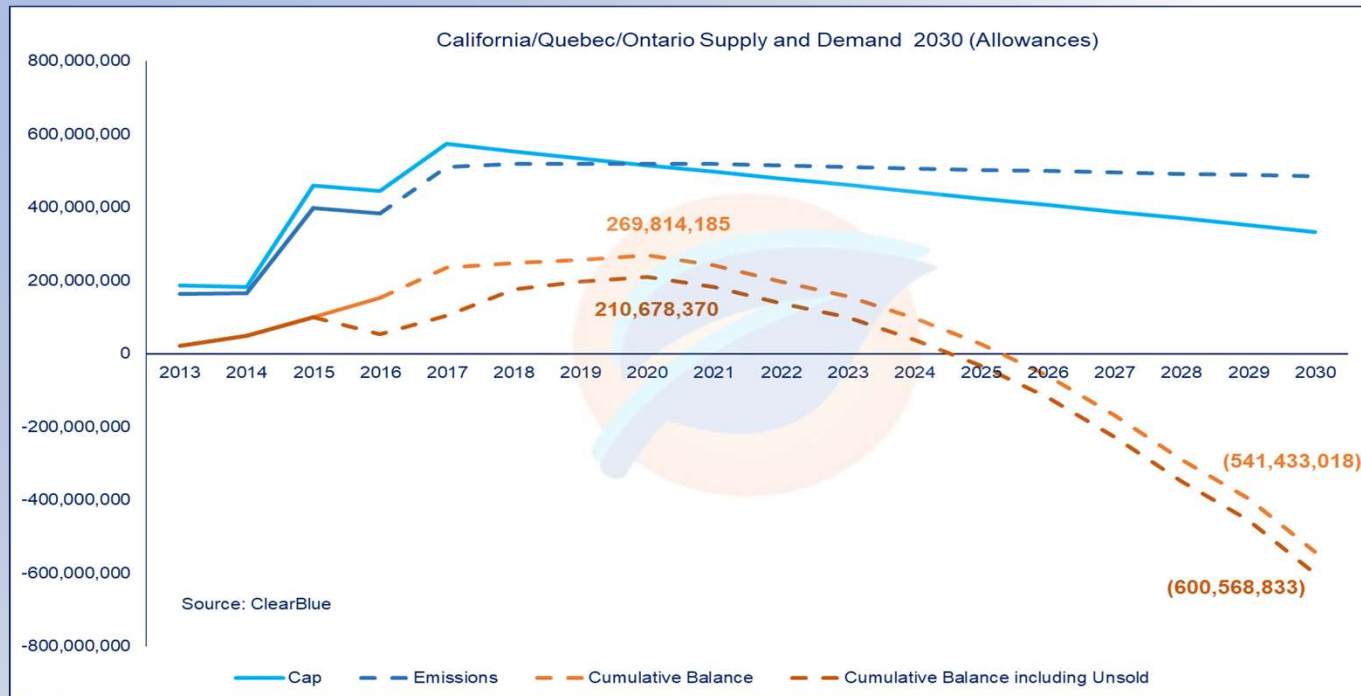
Data Source: ICE  
Exchange, Evolution  
Markets, ARB,  
MDDELCC, MOECC

- WCI Auction #14 result was oversubscribed for current vintage allowances, while it was undersubscribed for future vintages.
- This auction was the first linked auction California, Quebec and Ontario.
- To date, Auction Revenue for Ontario ~**\$2.5 billion**



# 2030 Supply and Demand

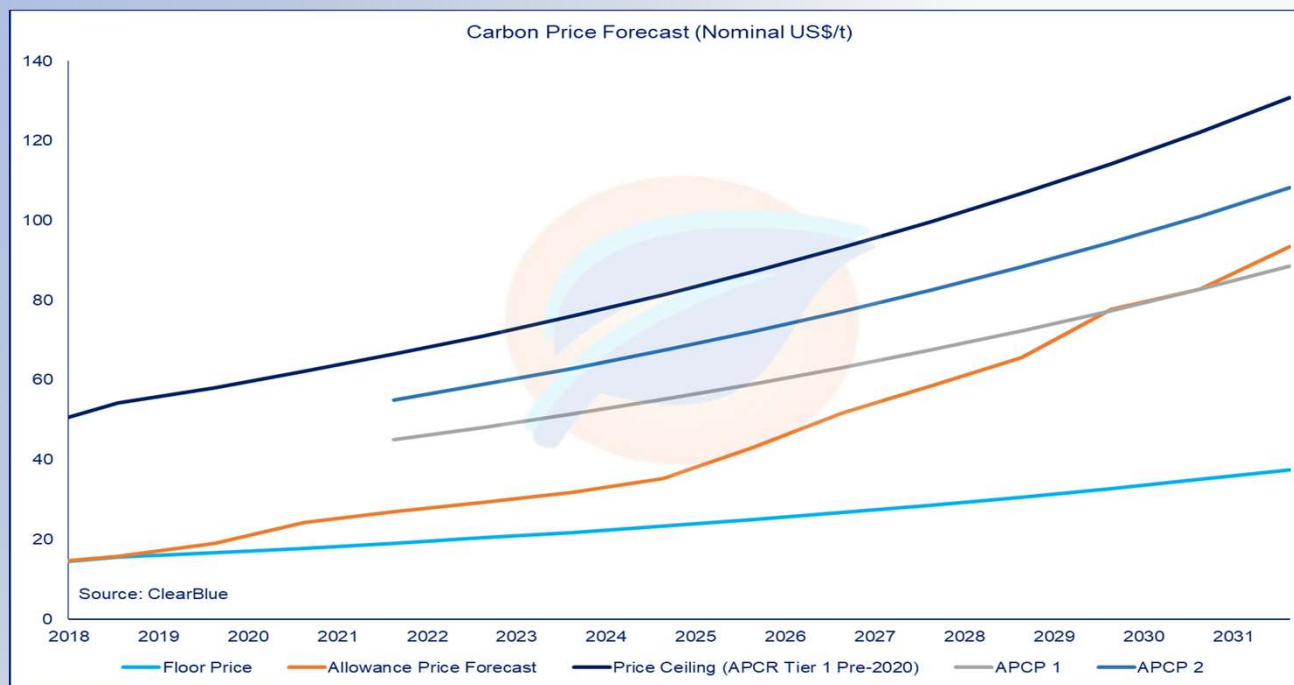
Ambitious 2030 emissions targets: 40% down in California, 37% in Ontario and 37.5% in Quebec versus 1990. The Cap Reduction could be up to 3.8%/year





# Our Price Forecast

- Current Price  
~US\$14.67  
(~CA\$18.74)
- Oversupply will limit any upside to prices until at least 2019
- Market will become short overall in 2025
- Prices are expected to rise significantly above the auction floor after 2020

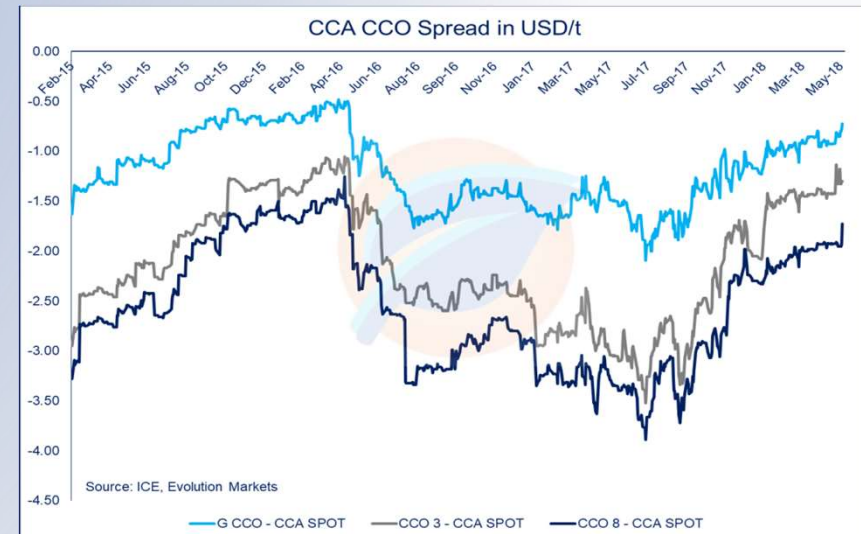
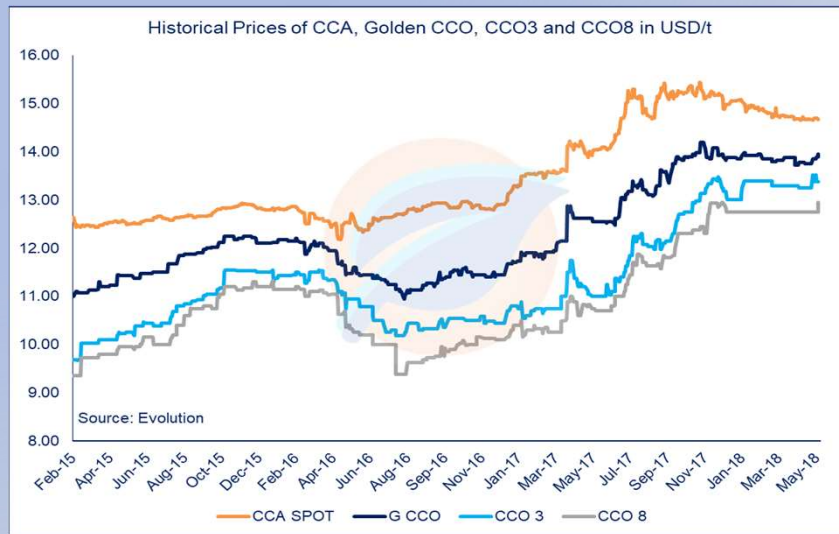


Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Allowance Price Forecast	16.00	19.00	24.25	27.05	29.38	31.81	35.33	42.97	51.71	58.58	65.58	77.72	82.73	93.52



# Offset Pricing

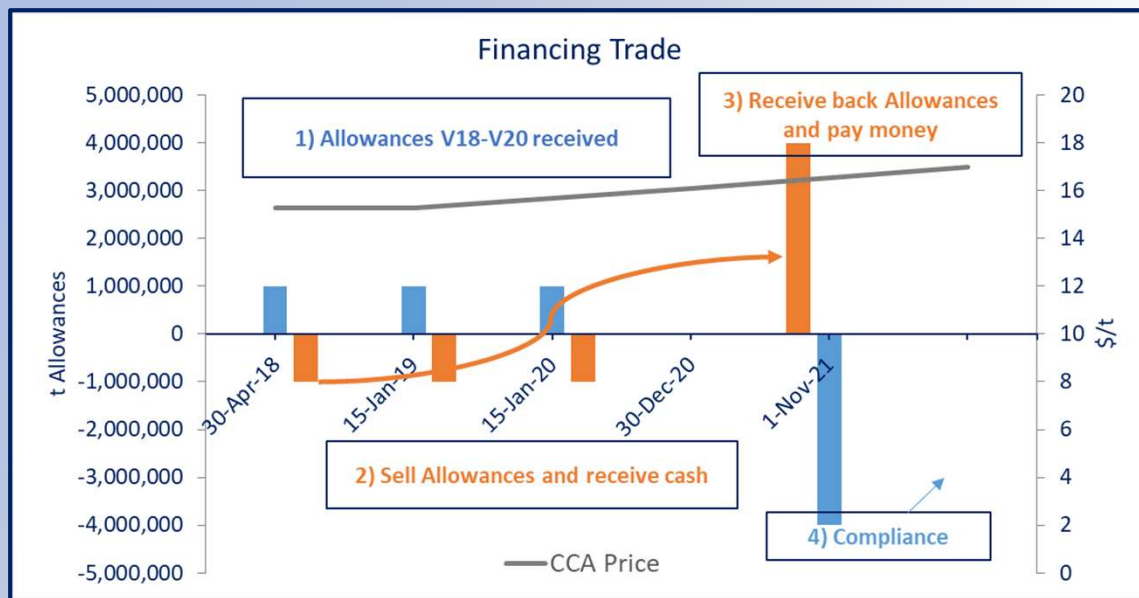
## Offsets trade at a discount to Allowances



- Spread becoming smaller as we go towards Nov 1, 2018 Compliance Deadline
- No exchange product available for offsets
- California offsets have invalidation risks
  - Quebec and Ontario do not have this risk



# Finance Trade



	V18			
	May-18	Dec-18	Dec-19	Dec-20
CCA \$/t (ICE)	14.68	15.01	15.61	16.21
Implied Financing		2.25%	4.00%	3.84%
Auction Floor (2% inflation)	14.53	15.55	16.64	17.80

Source: ICE  
May 15, 2018