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RESERVE

Western Climate Initiative Market Update

July 20, 2017

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A bit of lawyerly caution...

Much of this presentation is based on our understanding of state and provincial cap and trade regulations. As the implementation of the Regulations is the responsibility of the respective governmental agencies, you should be aware that anything presented here may be interpreted or applied differently by those agencies.

Moreover, this presentation does not constitute legal advice. Information presented here should be regarded as guidance and does not have a legally binding effect.

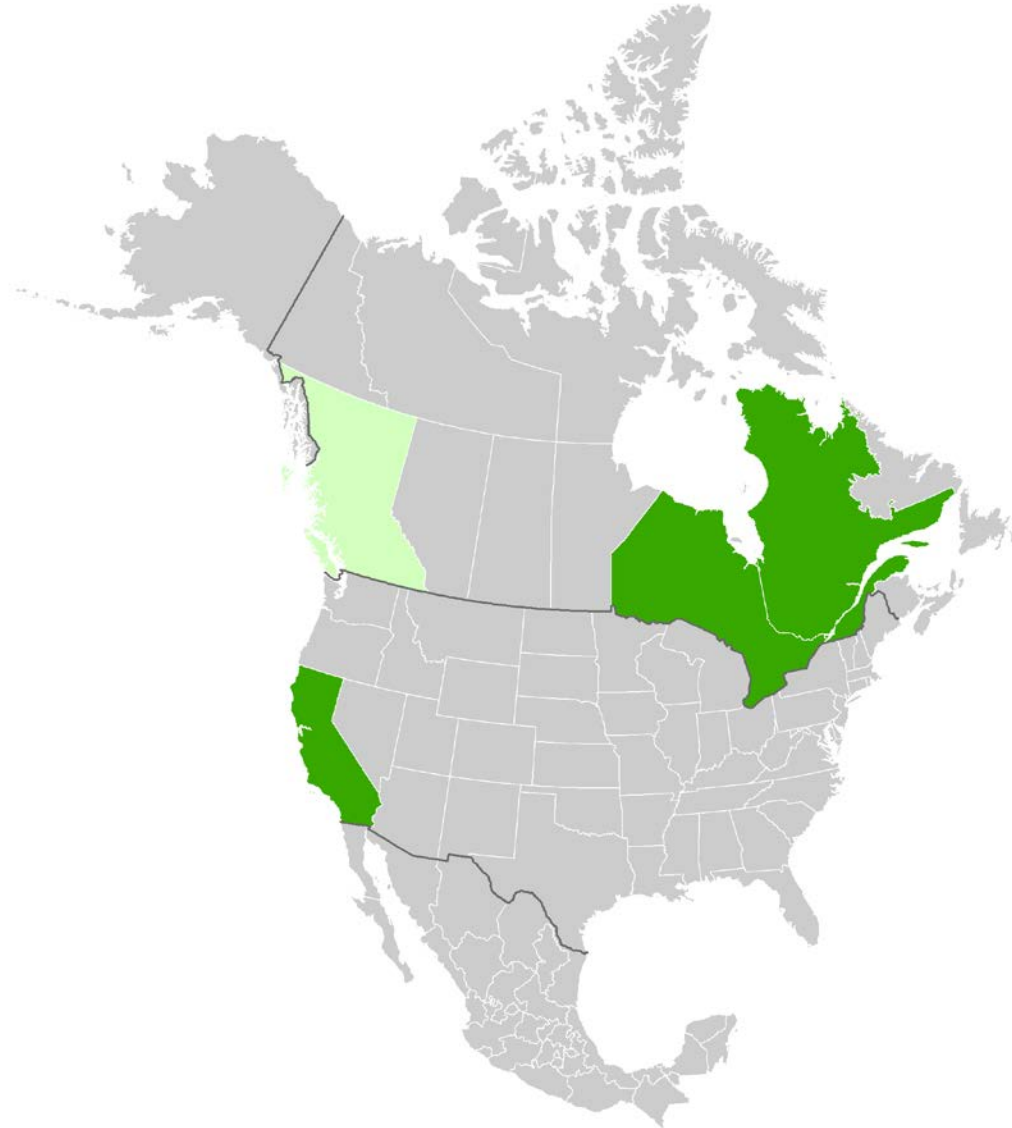
Enjoy!

Western Climate Initiative compliance market



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California

- Assembly Bill 32 (2006): adopted 2020 GHG target and authorized action
 - Implemented through development of Scoping Plan, followed by the Regulation, which has been amended several times
 - Authorizes program through 2020
 - Target is 1990 emission levels
- Senate Bill 32 (2016): adopted 2030 GHG target of 40% below 1990
- Assembly Bill 398 (2017): authorized cap and trade through 2030

California AB 398

- Authorizes the C&T program through 2030
- Calls for updated Scoping Plan by Jan 1, 2018
- Establishes a Compliance Offsets Protocol Task Force
 - Could this spur action on protocol adoption?
- Reduces offset usage limit from 8% to 4% (2021-2025) and then 6% (2026-2030)
- Requires that 50% of offsets used in 2021-2030 must offer environmental benefit to the state of CA
 - Could put a major chill on the market

Quebec cap & trade program



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- Linked to CA through CITSS and joint auctions
- GHG budget is ~15% of California
- 2020 target is 20% below 1990 levels
- 2030 target is 37.5% below 1990
- 8% offset usage limit

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Ontario cap & trade program [DRAFT]

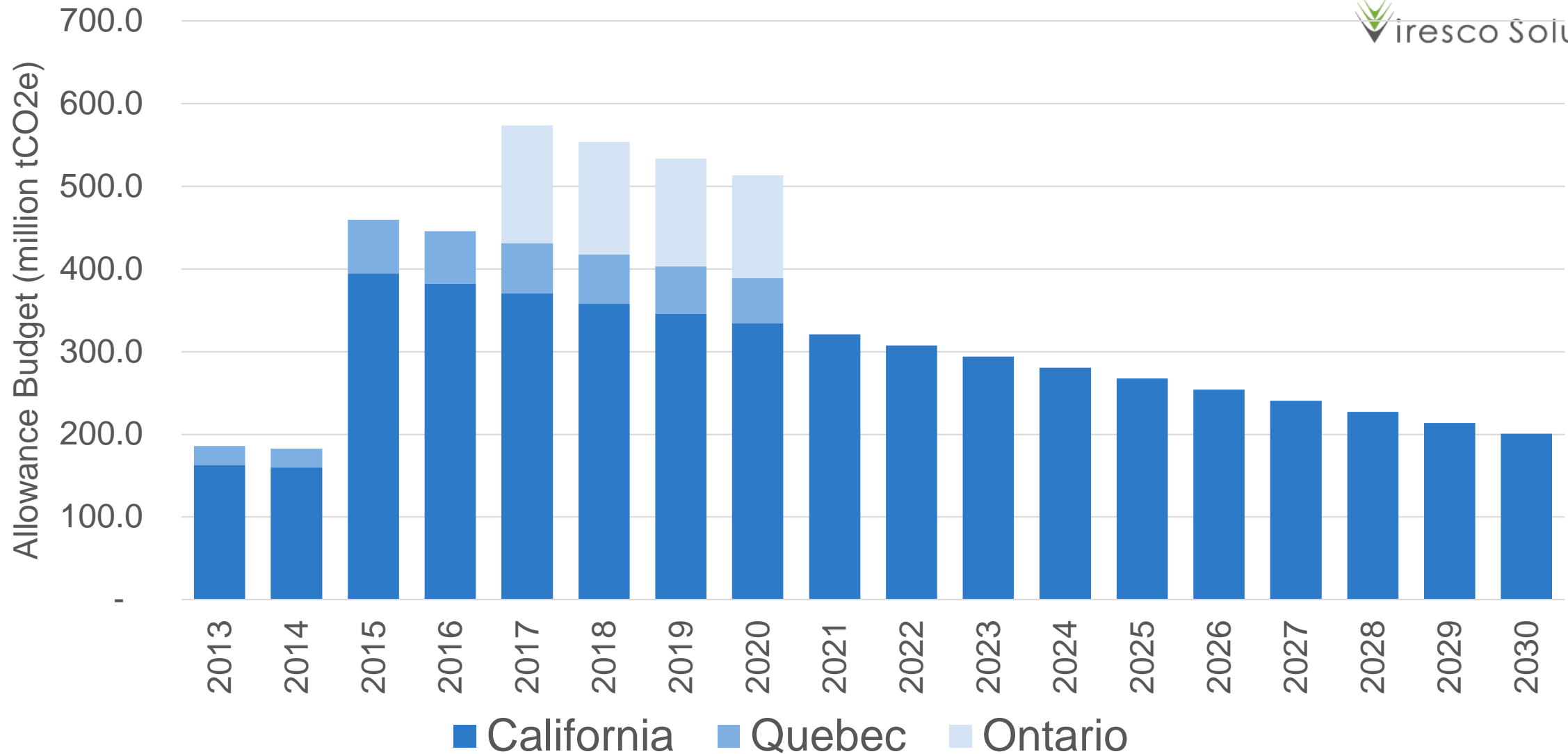
- Targets related to 1990 emissions
 - 2020: 15%
 - 2030: 37%
 - 2050: 80%
- Will be linked to CA and QC through CITSS and joint auctions
- C&T is operable, but offsets regulation is not final
- Reserve and partners are adapting 13 project protocols
- 8% usage limit on offsets
- Program structure similar to CA with a few exceptions:
 - Aggregation allowed, but only at an administrative level
 - No buyer liability, but risk buffer contribution for all projects

Annual WCI GHG allowance budgets

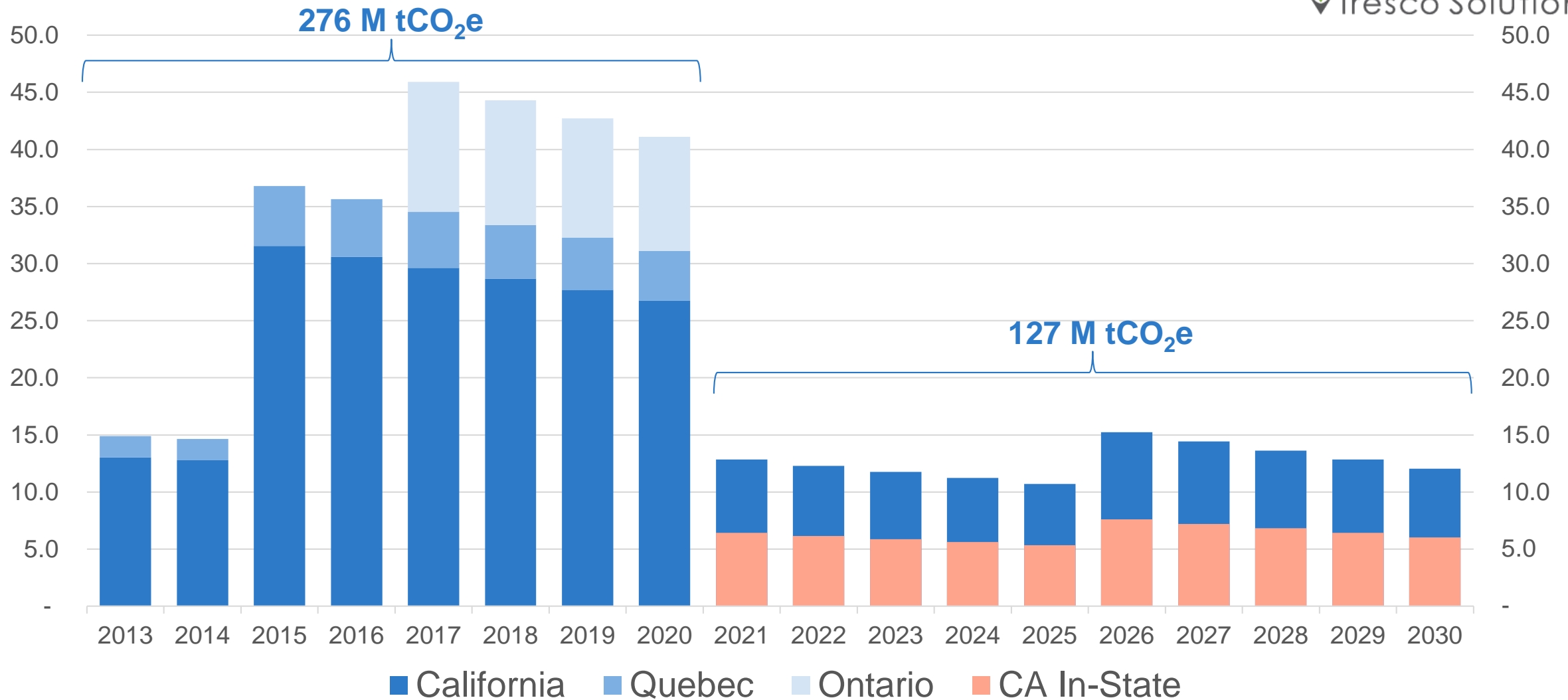


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Cumulative WCI GHG offset budgets

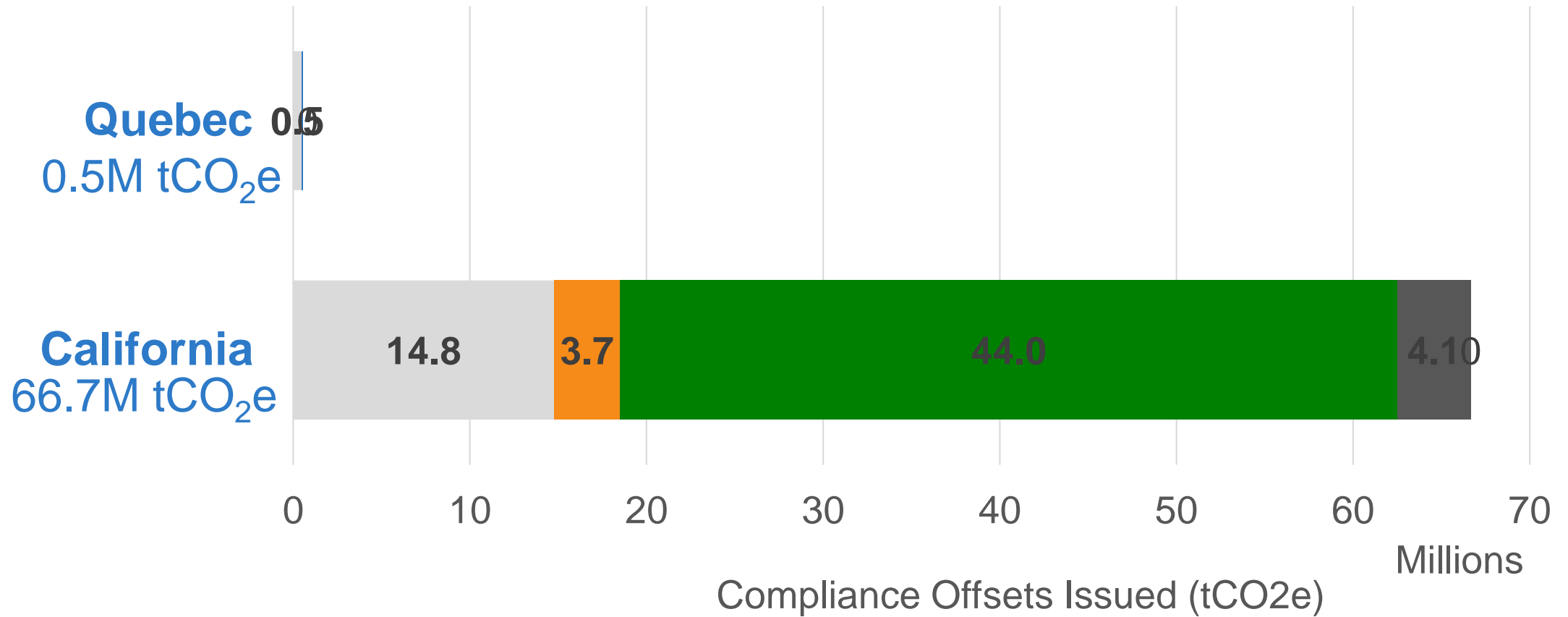


Offset project protocols

<i>Adopted</i>	<i>In-Progress</i>	California	Quebec	Ontario
<i>Forest*</i>				
<i>Livestock (Manure)</i>				
<i>Livestock (Enteric)</i>				
<i>Rice Cultivation</i>				
<i>Fertilizer Management</i>				
<i>Avoided Grassland Conversion</i>				
<i>Conservation Cropping</i>				
Urban Forest				
ODS Destruction				
Landfill Gas Destruction				
Mine Methane Capture				
Refrigeration Systems				
Organic Waste Management				
Organic Waste Digestion				

**Note that the CA, QC, and ON forest protocols are not identical in their scope of project activities, and the new ON/QC protocol is likely to be split into multiple protocols*

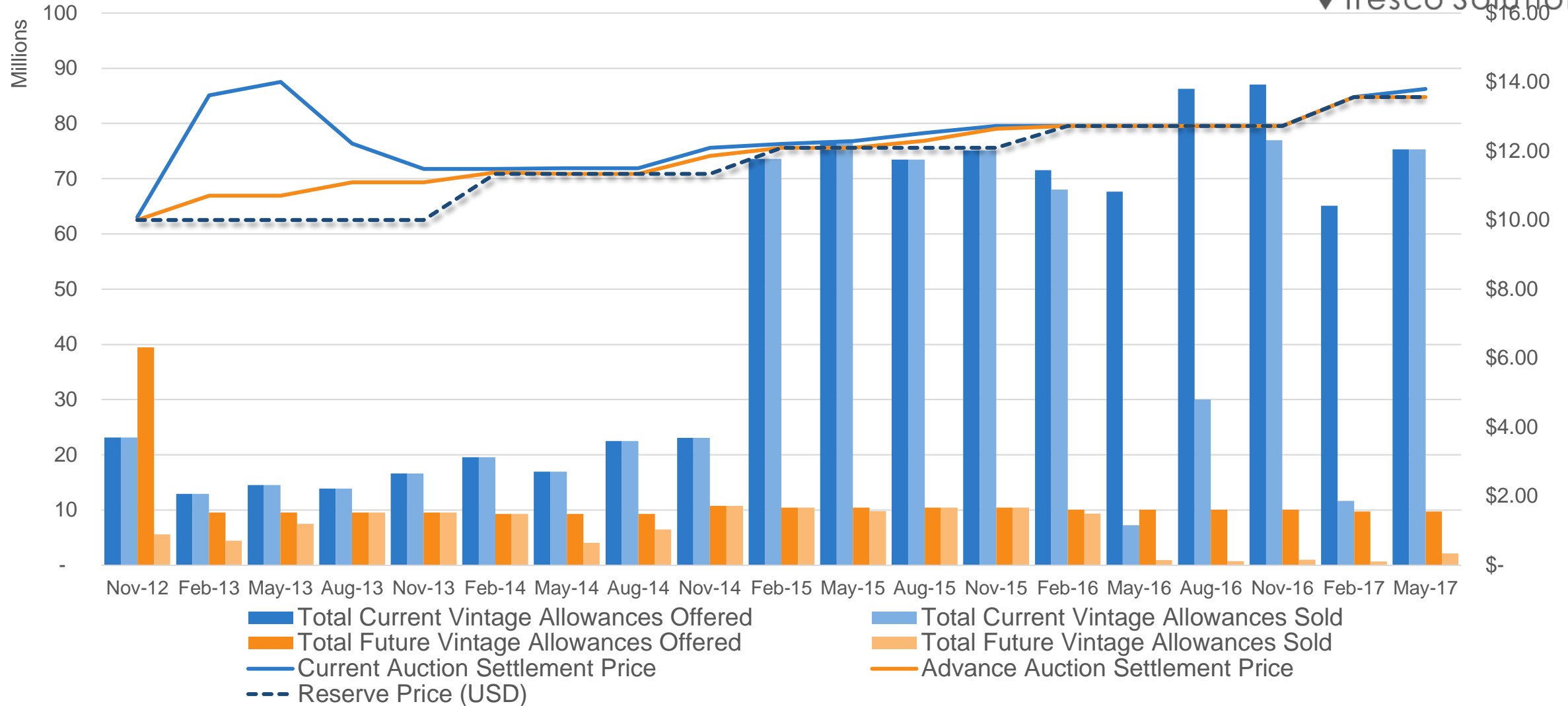
Compliance offset issuance to date



As of 7/12/17

■ ODS ■ Livestock ■ U.S. Forest ■ MMC ■ Landfill

Allowance auctions



Secondary market activity

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QUESTIONS & DISCUSSION



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APPENDIX

Pan Canadian Framework – Geez!

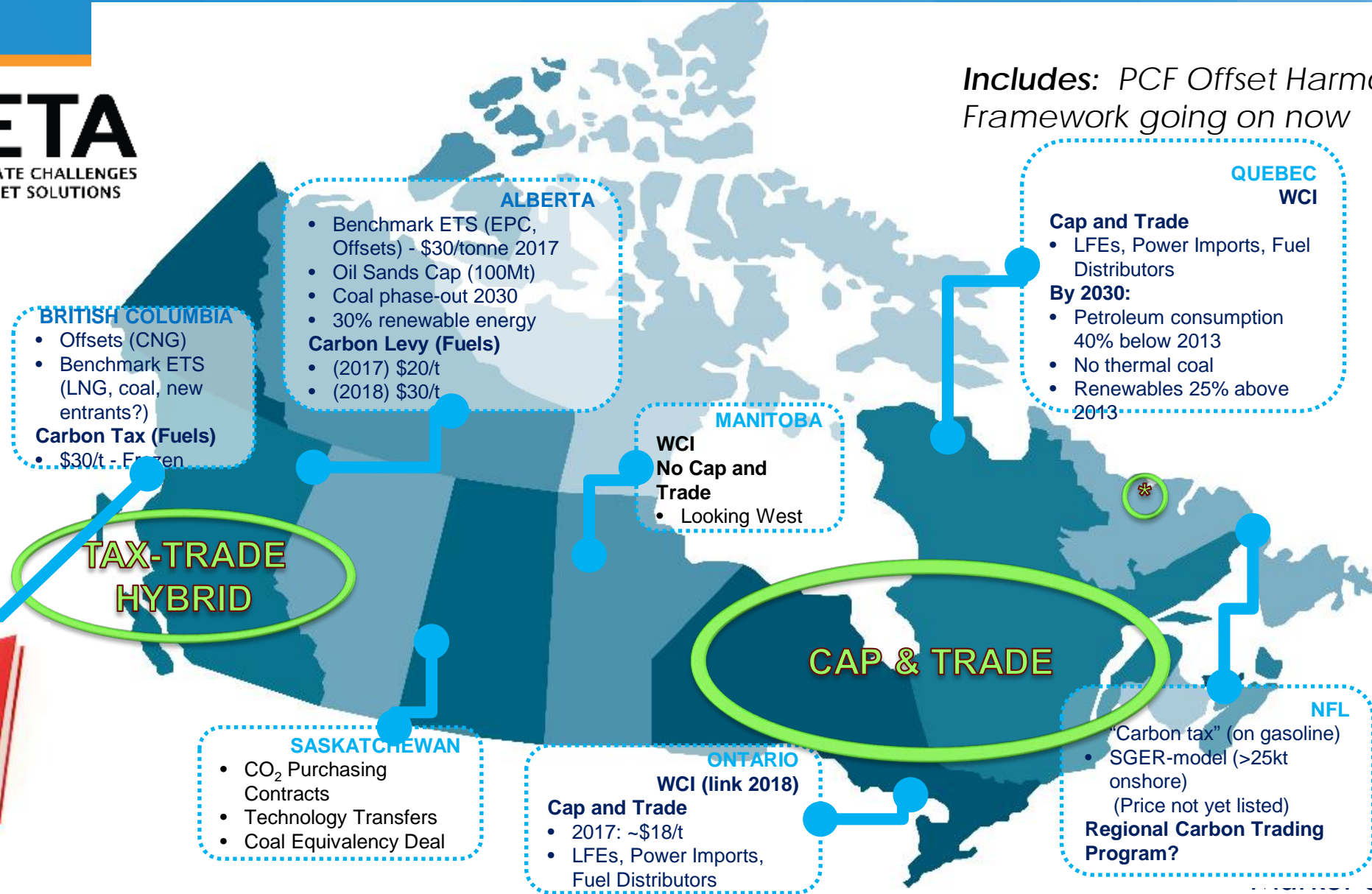


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IETA
CLIMATE CHALLENGES
MARKET SOLUTIONS

Includes: PCF Offset Harmonization Framework going on now *isco Solutions*



BRITISH COLUMBIA

- Offsets (CNG)
- Benchmark ETS (LNG, coal, new entrants?)
- Carbon Tax (Fuels)**
- \$30/t - Frozen

ALBERTA

- Benchmark ETS (EPC, Offsets) - \$30/tonne 2017
- Oil Sands Cap (100Mt)
- Coal phase-out 2030
- 30% renewable energy
- Carbon Levy (Fuels)**
- (2017) \$20/t
- (2018) \$30/t

MANITOBA

- WCI**
- No Cap and Trade**
- Looking West

QUEBEC
WCI

- Cap and Trade**
- LFEs, Power Imports, Fuel Distributors
- By 2030:**
- Petroleum consumption 40% below 2013
- No thermal coal
- Renewables 25% above 2013

**TAX-TRADE
HYBRID**

CAP & TRADE

SASKATCHEWAN

- CO₂ Purchasing Contracts
- Technology Transfers
- Coal Equivalency Deal

ONTARIO

- WCI (link 2018)**
- Cap and Trade**
- 2017: ~\$18/t
- LFEs, Power Imports, Fuel Distributors

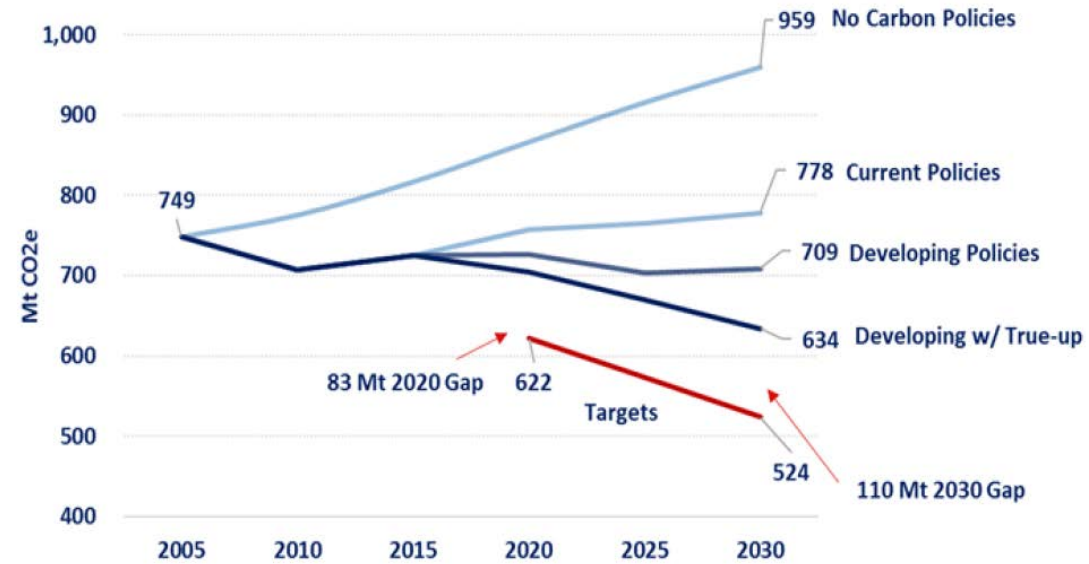
NFL

- "Carbon tax" (on gasoline)
- SGER-model (>25kt onshore) (Price not yet listed)
- Regional Carbon Trading Program?**

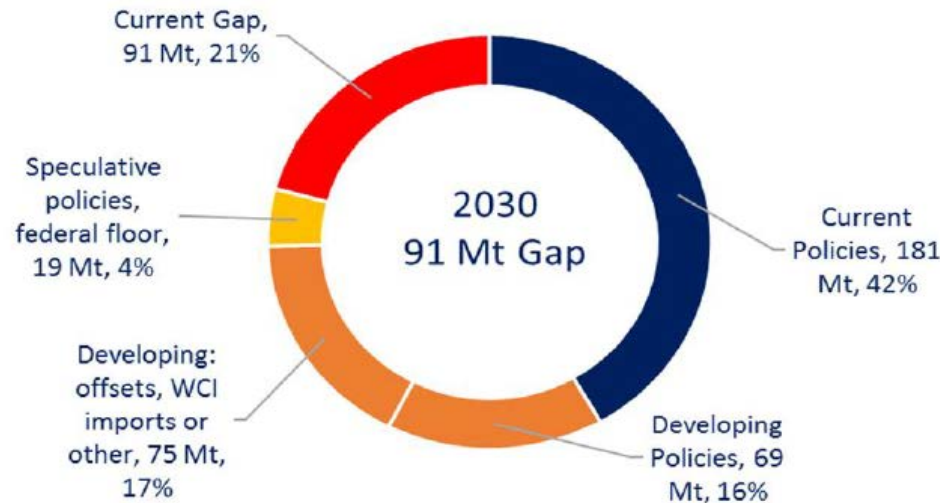
Challenges,
Solutions



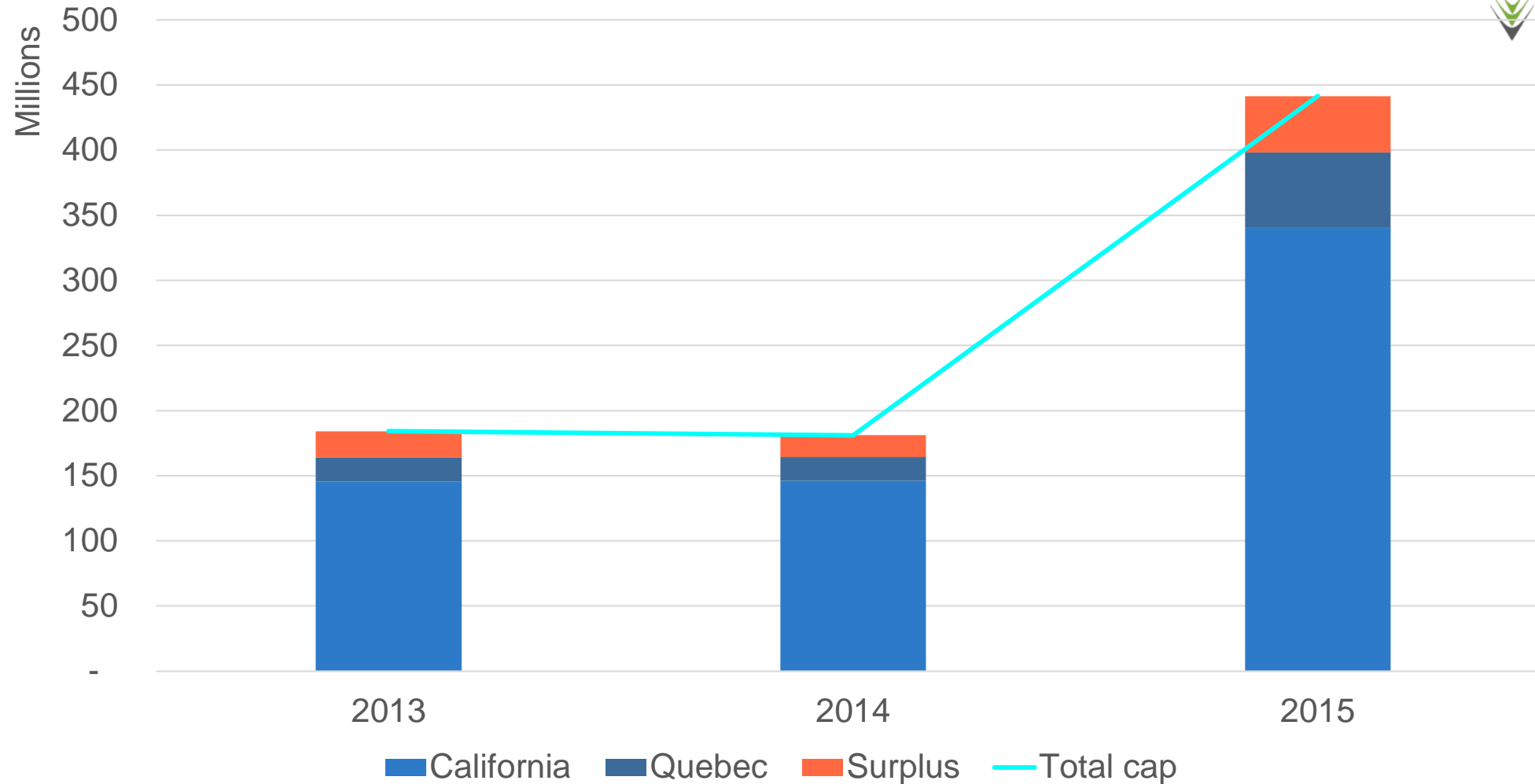
Canada Gap – Mid Case



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Emissions staying under the cap

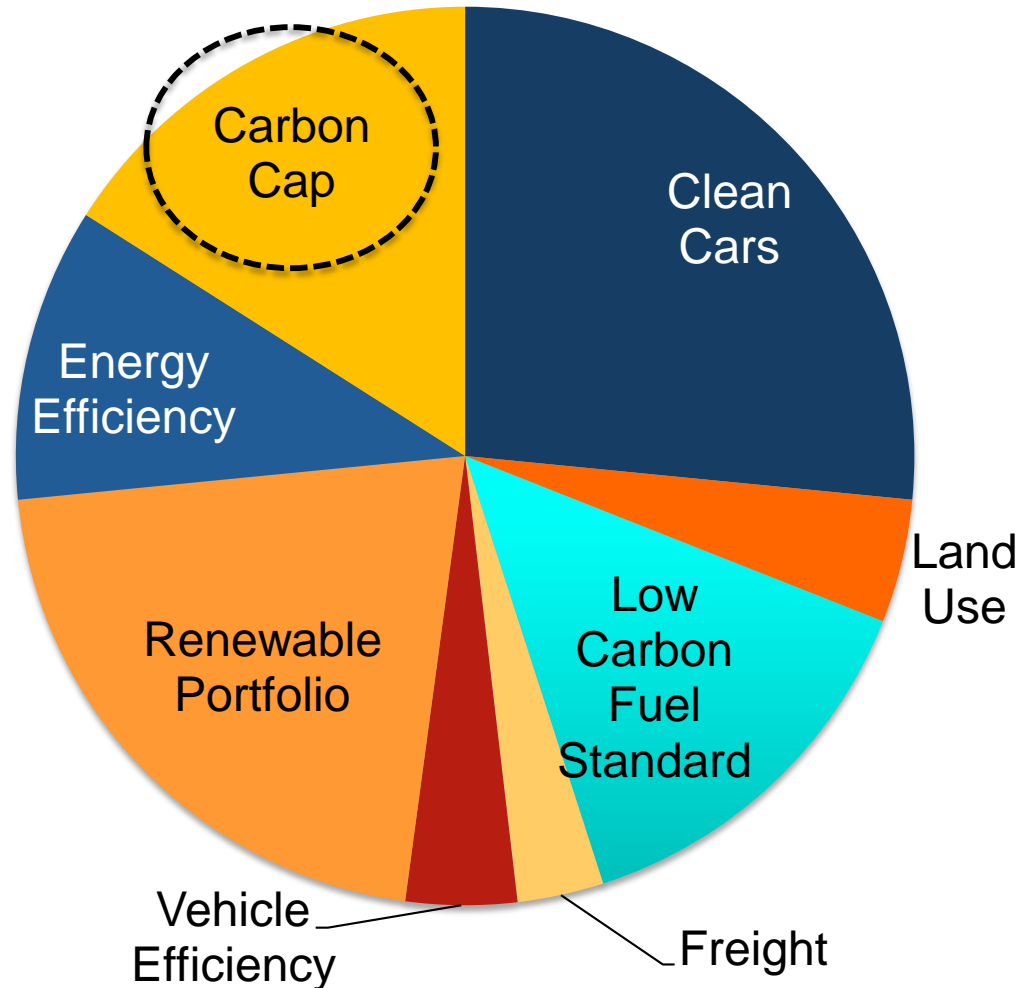


AB32 emission reduction measures



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AB32 is more than just a price on carbon. The cap works together with other sector-specific measures, serving as a backstop to ensure we meet our legally-mandated reduction requirements.

Allowance proceeds

Allowance Auction Proceeds to State of California (millions USD)

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