



THE
CLIMATE
TRUST

INVEST WITH PURPOSE

How do offsets work?

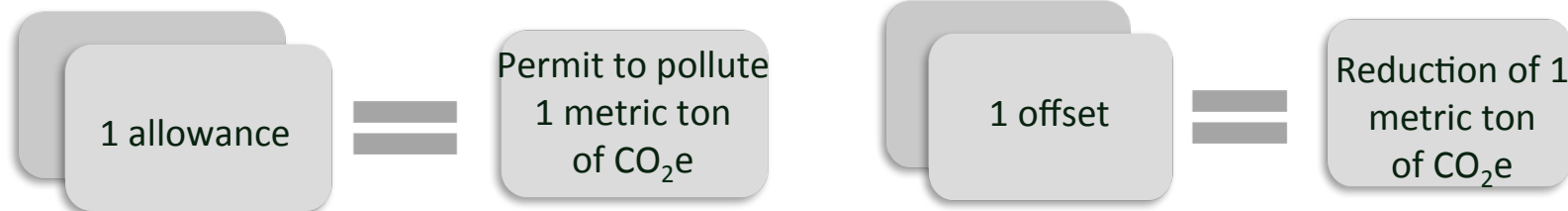
Agriculture, Forest, Fisheries, Rural
Communities, and Tribes Work Group

Sean Penrith
Executive Director
The Climate Trust

9/21/17

What is an offset

- Represents a verified emission reduction (VER) of 1 ton CO₂_e from uncapped sector.
- In a cap & trade program, a carbon offset can be used to compensate for an emission made elsewhere under the cap.
- Must be: Real, permanent, quantifiable, verifiable, enforceable, and additional.
- “Additionality” requirement requires that reductions would not otherwise have occurred in a “conservative business-as-usual scenario.”



Purpose: Cost containment

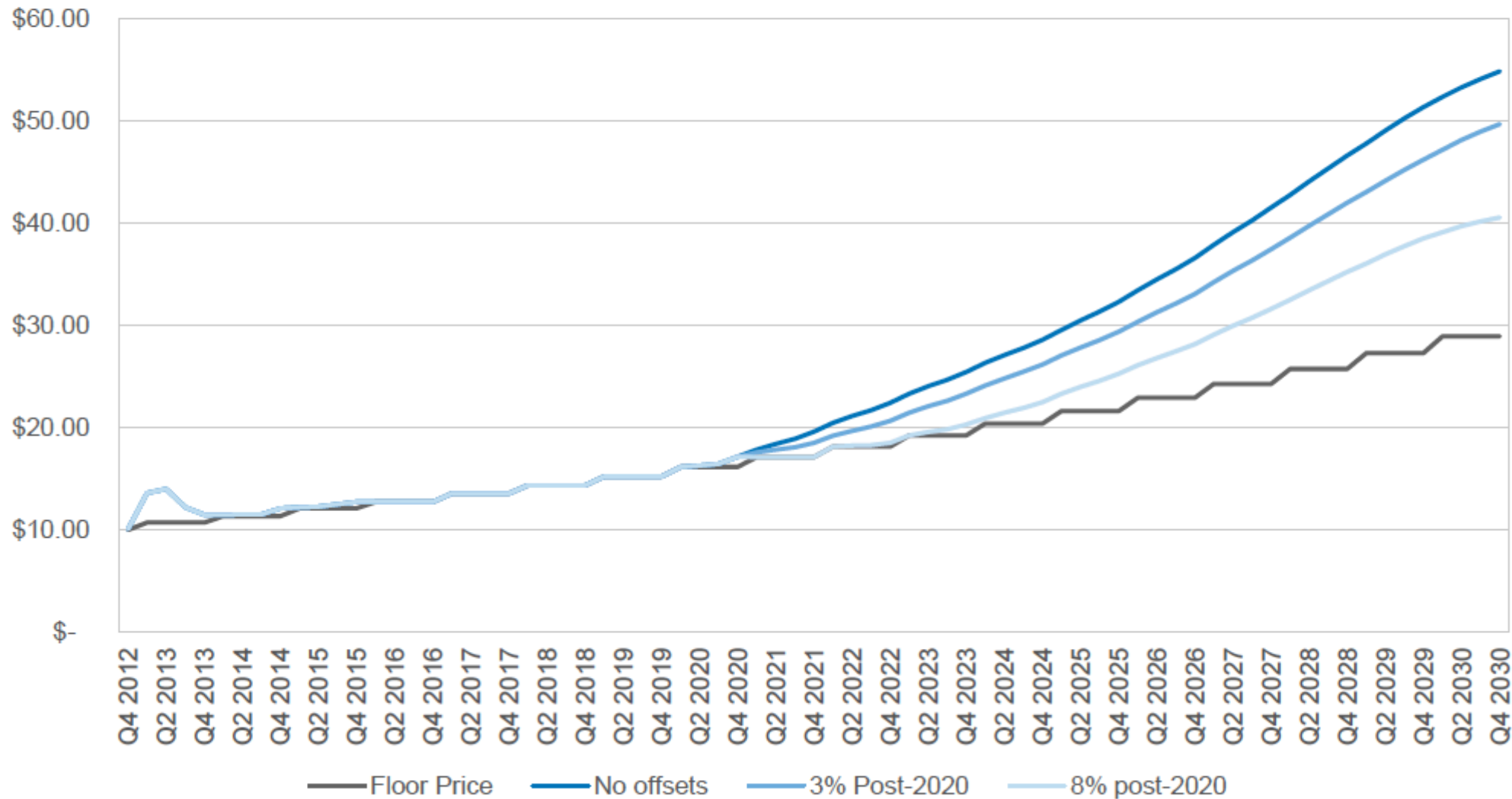
C&T regulator has to consider:

- How to manage compliance costs.
- Impact of associated pass-through of those costs to consumer.
- How long to give covered entities time to on-ramp towards increasingly stringent reductions goals.
- World Bank's 2016 Carbon Pricing State & Trends Report states, "greater cooperation through carbon trading could reduce the cost of climate change mitigation by 32% by 2030."



Altering the Offset Rules: Impact on the pre- and post-2020 program

Figure 1: Price curves with varying offset usage post-2020

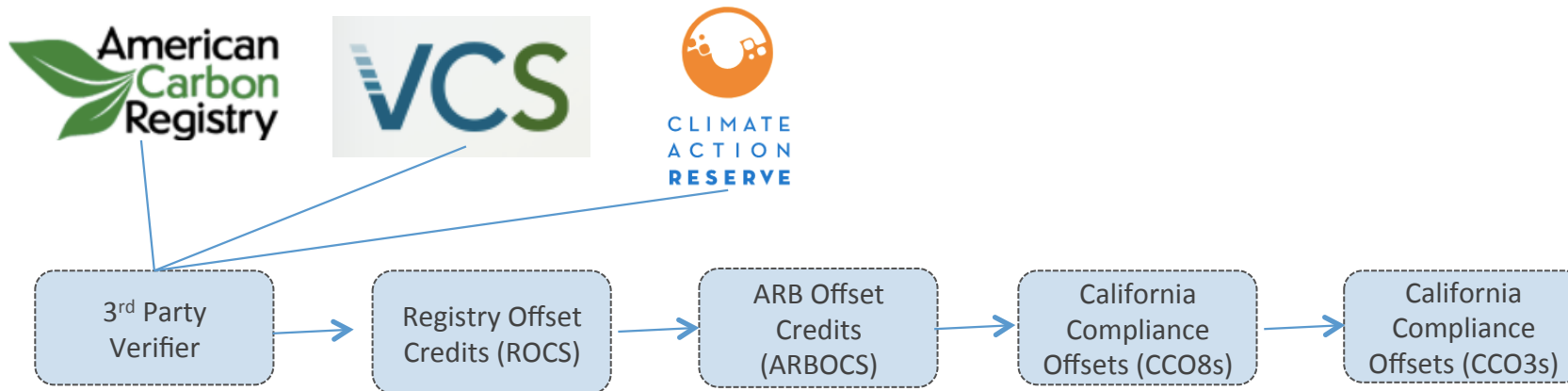
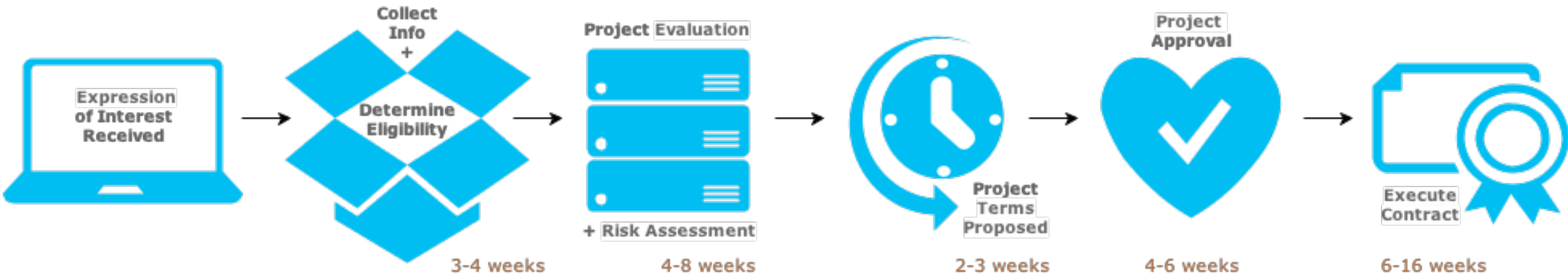


Source: ICIS



How are they created?

Use existing protocol to issue compliant credits for a cap and trade program



Offset project protocols



CLIMATE
ACTION
RESERVE

 Viresco Solutions

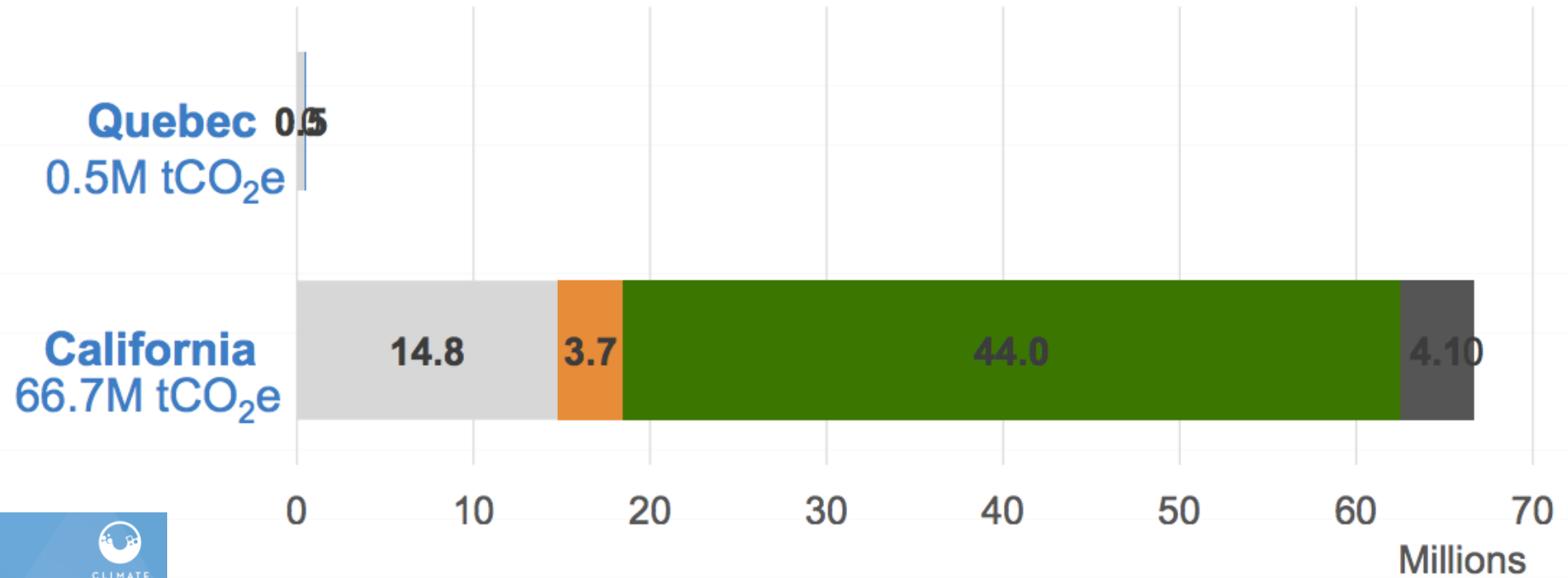
<i>Adopted</i>	<i>In-Progress</i>	California	Quebec	Ontario
<i>Forest*</i>				
<i>Livestock (Manure)</i>				
<i>Livestock (Enteric)</i>				
<i>Rice Cultivation</i>				
<i>Fertilizer Management</i>				
<i>Avoided Grassland Conversion</i>				
<i>Conservation Cropping</i>				
Urban Forest				
ODS Destruction				
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*

Utilization Rate

- CA AB398: Reduces offset usage limit from 8% to 4% (2021-2025) and then 6% (2026-2030)
 - Requires that 50% of offsets used must offer environmental benefit to the state
 - Establishes a Compliance Offsets Protocol Task Force
- Quebec has included an 8% usage limit
- Ontario has also included an 8% limit

Offsets issued



Compliance Offsets Issued (tCO₂e)

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

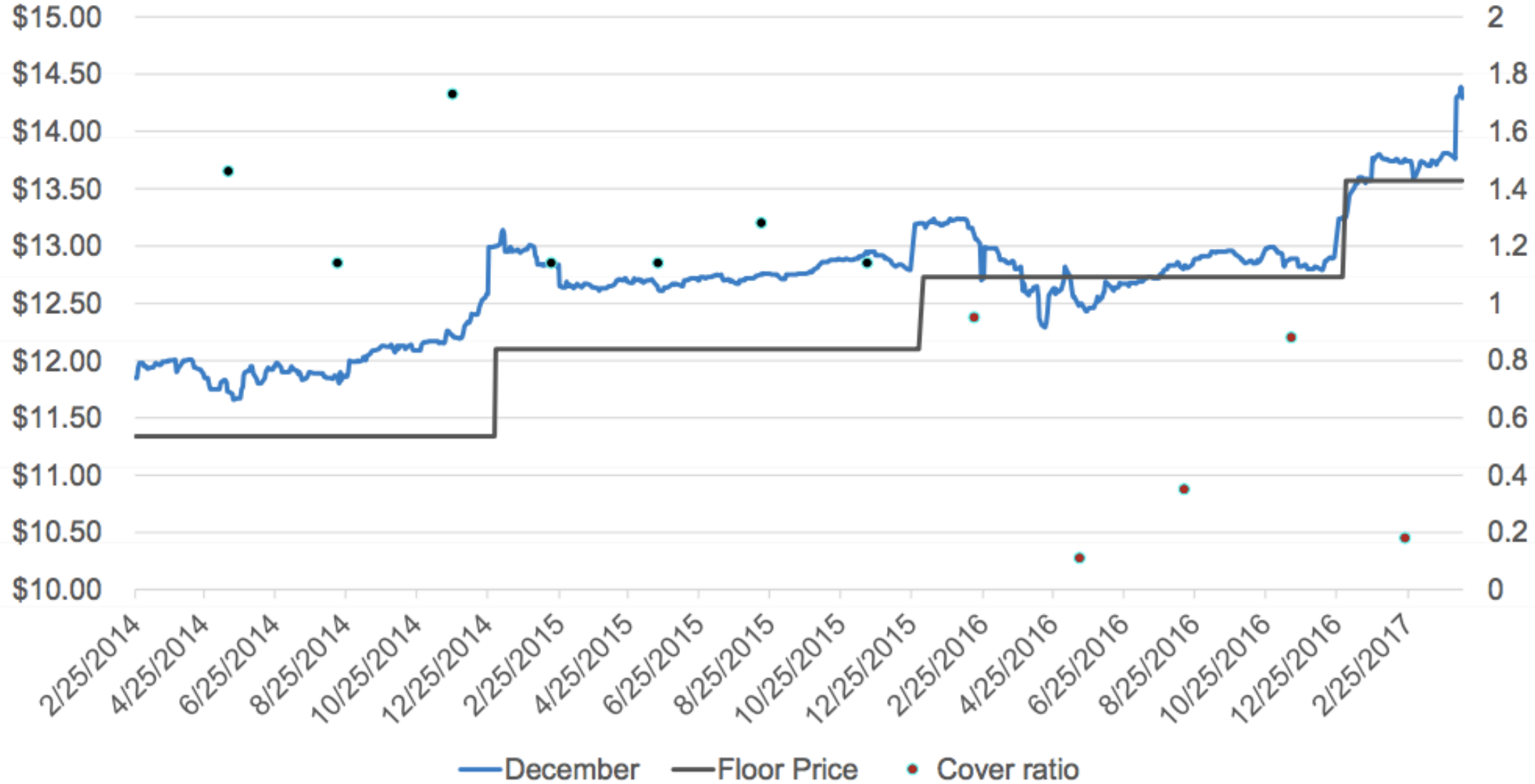


iresco Solutions
As of 7/12/17

The Challenge

- “.....offsets were primarily linked to projects outside of California, and large emitters of GHGs were more likely to use offset credits to meet their obligations under cap-and-trade.”
- Note, for a covered entity in California, offsets are a substitute for allowances. Without offsets, emitters would purchase more allowances until the price of allowances exceeds the cost of direct emission reductions as per the design intent of a cap and trade program.
- The allowance price drives the decision about whether to reduce emissions at the source.

Allowance Secondary Market Activity



COMPLIANCE OFFSET PROJECTS

SENATE DISTRICT TWO: FACTS AND FIGURES

34 AB32 OFFSET

FORESTRY PROJECTS

229,000

ACRES SUSTAINABLY MANAGED

17,600,000

METRIC TONS OF CARBON DIOXIDE

EMISSIONS SEQUESTERED¹,

EQUIVALENT TO:

644,000

HOMES' ENERGY USE FOR ONE YEAR²

\$184,000,000

GENERATED BY OFFSET PROJECTS

IN CA³

\$30,436,993

AB32 REVENUE INVESTED IN SD2⁴,

RESULTING IN:

529,994

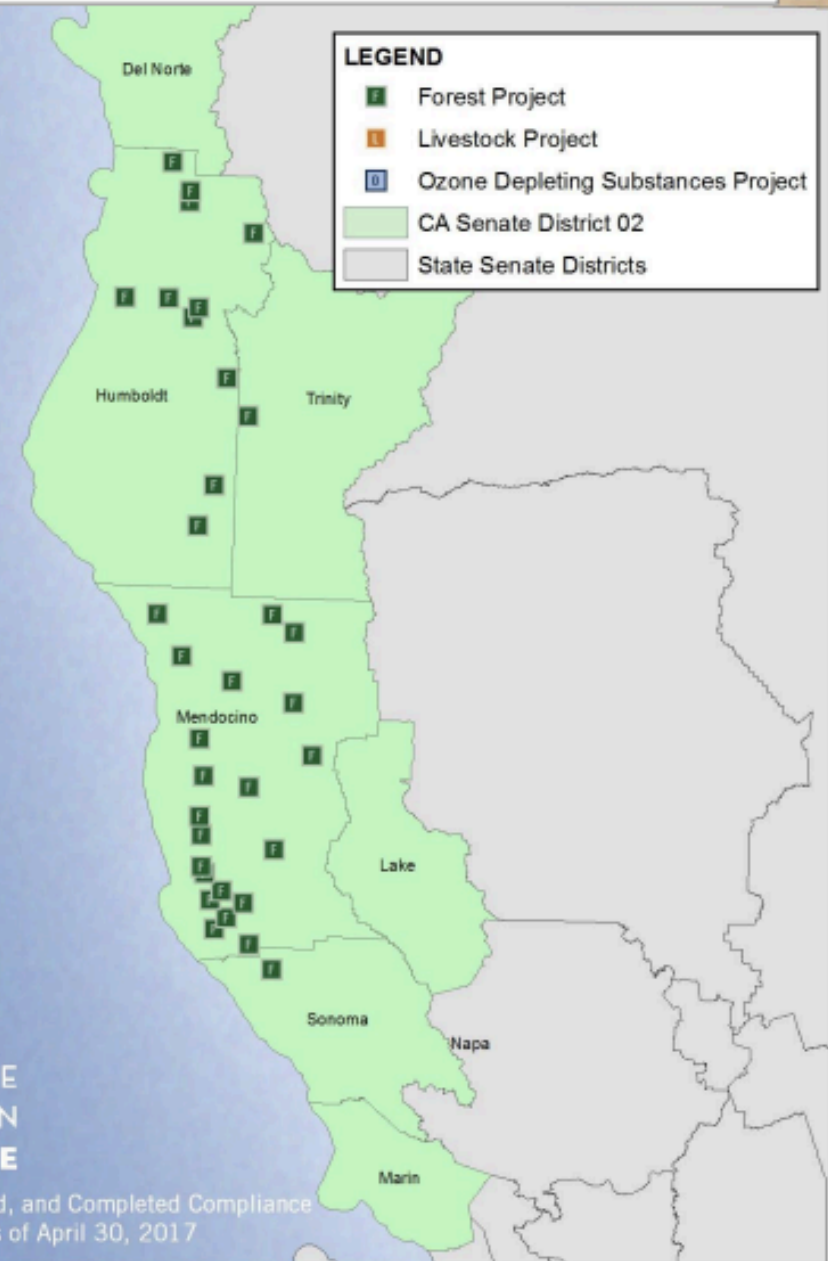
METRIC TONS OF CARBON DIOXIDE
EMISSIONS REDUCED, EQUIVALENT TO:

55,966

HOMES' ENERGY USE FOR ONE YEAR²

1. 1 metric ton of CO2 emissions sequestered = 1 ARB offset credit. The 17.6M figure is representative of all ARB credits issued from 34 projects to date, as well as credits verified by 3rd party and awaiting conversion to ARB system
2. Based on EPA GHG Equivalencies Calculator
3. Based on conservative offset credit pricing via Californiacarbon.info May 1, 2017
4. GGRF funds implemented based on ARB allowance auction proceeds data, May 2017

Offset Projects in Senator Mike McGuire's Senate District 02



Offset Utilization

- Over the 2013-2015 period, of all the instruments used for compliance under the cap and trade system, allowances totaled 372 million and offsets totaled just 20 million.
- Offsets represented just 5.3% of all compliance instruments surrendered to ARB (historic WCI average 4.5%).
- Until allowance floor prices escalate, the utility of offsets as a cost containment mechanism is yet to take full effect.
- Larger corporations do use offsets more than smaller ones because they have the resources to manage the associated (invalidation, delivery, etc.) risks of acquiring offsets.

Offsets & Linkage

- Each of the 6 ARB protocols incorporate requirements of Division 25.5 of Health and Safety Code: Real, permanent, quantifiable, verifiable, enforceable, and additional.
- Ontario Linkage:
 - Ontario has proposed a regulatory framework for offsets; is working on 13 offset protocols.
 - Will satisfy the applicable requirements in Division 25.5 of the Health and Safety Code, by representing reductions that are real, permanent, quantifiable, verifiable, enforceable, and additional.
 - Ontario's proposed offsets regulation uses a definition of additionality similar to ARB's.
 - Aggregation allowed, but only at an administrative level.
 - No buyer invalidation liability, but risk buffer contribution for all projects.
- Ontario, Quebec and California are expected to announce the linkage of their carbon markets under WCI 9/21/17 during Climate Week in NYC.

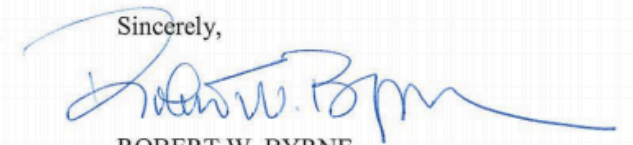
Attorney General's Advice to the Governor Concerning Linkage of California and Ontario Cap-and-Trade Programs

CONCLUSION

We believe the Governor has an adequate basis to make each of the four findings required by Government Code section 12894(f), thereby permitting ARB to move forward with the proposed linkage with Ontario.

Please contact us if you have any questions.

Sincerely,



ROBERT W. BYRNE
Senior Assistant Attorney General

For XAVIER BECERRA
Attorney General



THE
CLIMATE
TRUST

INVEST WITH PURPOSE

On Additionality

- This interpretation and method of implementing the AB 32 statute was upheld by the Court of Appeal in *Our Children's Earth Foundation v. ARB* (2014)
- Stanford 2017 report examined 39 forest offset projects that have been credited by CA to answer two questions:
 - 1) Are forest offsets providing real climate benefits?
 - 2) Are forest offsets providing other benefits, such as supporting habitat for rare species or opportunities for recreation?

“Our analysis shows that California’s forest offsets account for a small percentage of emissions reductions, by design. Yet at the same time, they provide an important opportunity to supply meaningful carbon sequestration and multiple co-benefits. California’s pioneering program demonstrates that forest-based offsets are feasible in a compliance market.”

On AB 398's cost containment impact...

California Carbon's Impact Analysis of AB398's reduced offset usage limits:

- Would significantly increase the program's reliance on the price ceiling reserve despite 'speed bumps.'
- The market "might expect to see a significant increase in the cost of compliance through 2030."
- This added cost could be as high as \$16 billion.

INVEST WITH PURPOSE

Sean Penrith
503-238-1915

spenrith@climatetrust.org

