



**THE
CLIMATE
TRUST**

Invest with purpose.

Raising Ambition: State of the Voluntary Carbon Markets 2016

Sean Penrith
Executive Director
June 15th, 2016

Topics

- Hope
- Opportunities
- Concerns
- Finance



THE
CLIMATE
TRUST



THE CLIMATE TRUST

2.5 MILLION
Total tons greenhouse gas reduced

\$29.3 MILLION
Total committed to projects

5.3 MILLION
Contracted emissions reductions (tons)

42
Total projects

67,000
Persons served 2008-2014

100+
Collaborative partnerships



- Biogas ☐
- Agriculture ☐
- Compost & Landfill ☐
- Forestry ☐
- Renewable Energy ☐
- Energy Efficiency ☐
- Transportation ☐
- Material Substitution ☐

Report Upshot

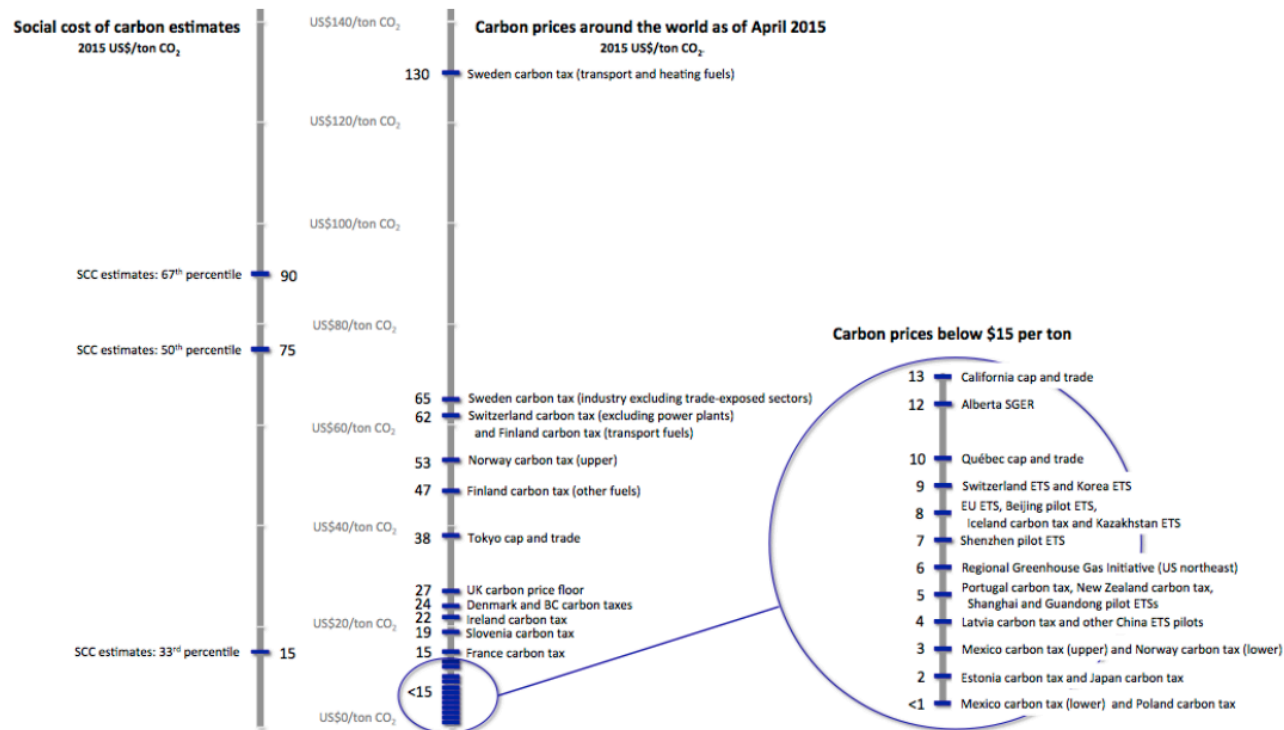
	2015	2014*	% CHANGE	ALL YEARS**
VOLUME:*	84 MtCO ₂ e	77 MtCO ₂ e	+10%	0.99 BtCO ₂ e
VALUE:***	\$278 M	\$298 M	-7%	\$4.6 B
AVERAGE PRICE:***	\$3.3 / tonne	\$3.8 / tonne	-14%	\$4.6 / tonne



THE
CLIMATE
TRUST

Carbon price is an indication of the ambition of a carbon pricing mechanism

Figure 1. CO₂ prices in markets around the world, compared to the social cost of carbon



Source: Jenkins and Karplus. "Carbon pricing under binding political constraints."
WIDER Working Paper. April 2016.



THE
CLIMATE
TRUST

Positive News

- 88/196 NDCs ref market mechanism
- High Ambition Coalition (1.5°C)
- 128 jurisdictions sign on “Under 2 MOU” 2050 target
- Article 6 & ITMOs
- Carbon Pricing Leadership Coalition (~1k companies)
- Internal corporate carbon pricing
- Compliance mechanisms in progress/delayed (Ontario, China, RSA, Korea, Oregon) >> CAR issuance ramped 11% ahead of CA)



THE
CLIMATE
TRUST

Paris Agreement: Article 6

Markets (ITMOs) feature prominently:

1. Provisions to facilitate cross-border transfers (article 6, paragraph 2) (trading of offsets and allowances);
2. Robust accounting measures – including the avoidance of double-counting (article 6, paragraphs 2 and 5);
3. A new crediting mechanism (article 6, paragraph 4) (registry to allow for trading exchange)



THE
CLIMATE
TRUST

Paris Agreement: Article 6

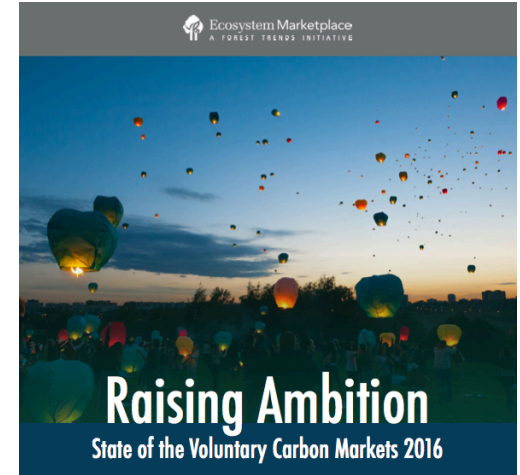
- 18 countries went further than the Agreement. Led by New Zealand countries have signed on to a carbon market declaration
- This declaration sends a massive signal that markets have a crucial role in supporting GHG goals in the post-2020 period.
- Group aims to develop standards and guidelines for environmental integrity of global carbon markets.
- Ultimate aim is of increasing action and raising ambition, through the use of carbon markets!



THE
CLIMATE
TRUST

Resonance with Report Findings

- Prices variable (\$0.1 - \$44.8) & driven by type & location
- Migration (19.7 MtCO₂e) from voluntary registries to compliance.
- 92% of transacted volume went to repeat buyers.
- Energy, transportation, finance, and entertainment sectors topped the buyer list.
- Pricing driven by type: \$1.9-\$2/tonne (wind & landfill), \$4.9-\$7.5/tonne (cookstove & forestry)
- 13.1 MtCO₂e out of total 84.1 MtCO₂e were for buyers looking for optimal fit; creates a bottleneck constraint on scale.
- Planned offset issuance in 2016 of 70.4 MtCO₂e primarily from land use, forestry, & RE projects.



Emerging Opportunities

- Clean Power Plan
 - Mass-based, multi-state SIP
- Council for Environmental Quality GHG Guideline revision
- Aviation (ICAO) initiative (~288-376 MtCO₂e by 2030)
- Compliance market value for voluntary market incubation
- Community co-benefit driver
- CA auction underscription (11%) tightens demand
- Fairtrade Climate Standard price floor launched Dec 2015.
- Pilot Auction Facility pioneered by World Bank
- USDA Conservation Innovation Grant support (landuse sector)



THE
CLIMATE
TRUST

Expanding Voluntary Buyer Commitment: Council on Environmental Quality

Executive Order 13693 (March 2015):

Federal agencies must reduce GHG emissions 40% below 2008 levels by 2025.

CEQ Guidance on Federal GHG Accounting and Reporting (June 2012)

“... carbon offsets are not allowed to be applied as an adjusted against a Federal agency’s emissions... More time and deliberate focus is necessary to understand how the market for carbon offsets and use of those offsets could be applied consistently across the Federal community.”

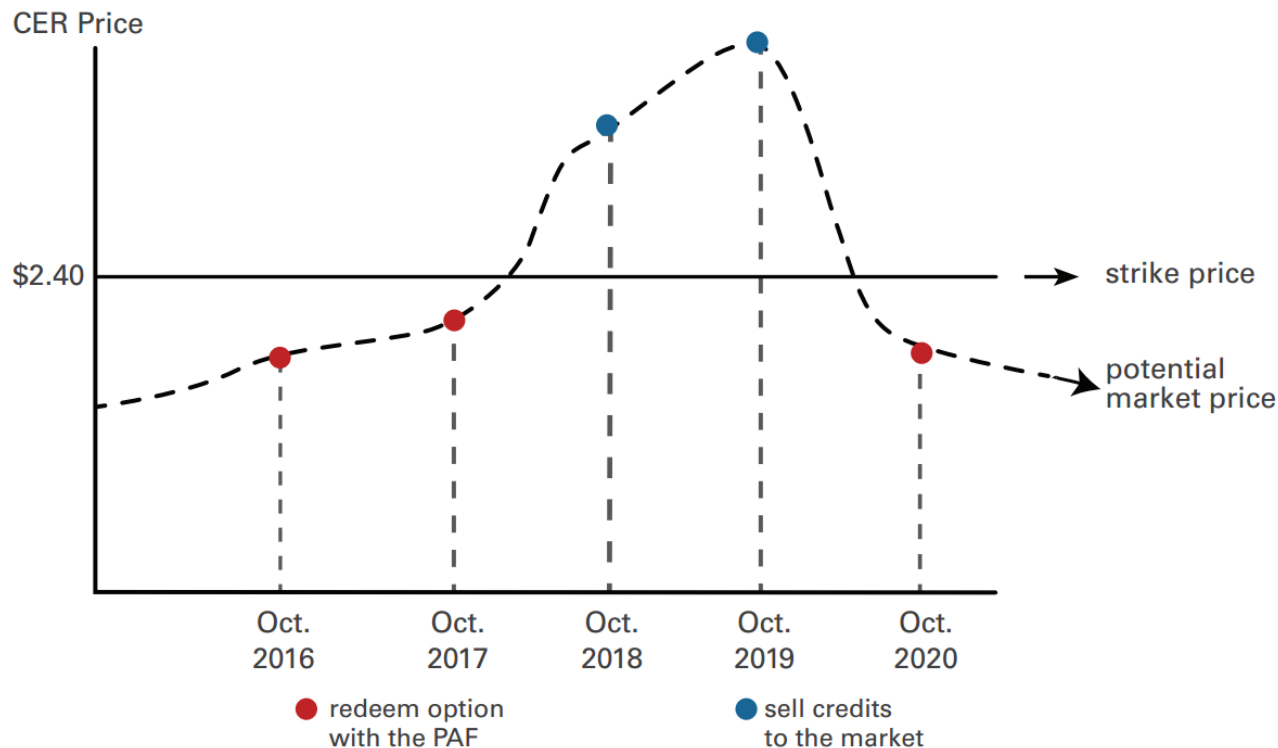
Allowing agencies to meet 8% of the anticipated reductions using offsets (rather than just RECs) could grow the voluntary market by 15% (~1.35 million offsets per year).

- Report stat: 98% of 2015 offsets sold were verified by an independent third-party standard



**THE
CLIMATE
TRUST**

Mitigating Market Risk: Replace grant funding with market risk mitigation (Pilot Auction Facility).



THE
CLIMATE
TRUST

Warning Signals

- CalChamber / ARB lawsuit over legality of auctioning allowances
- Clean Power Plan
- Federal sentiment on C&T vs tax
- Presidential elections

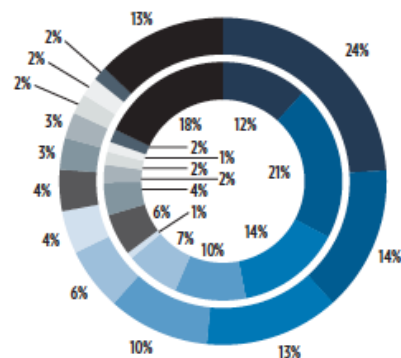
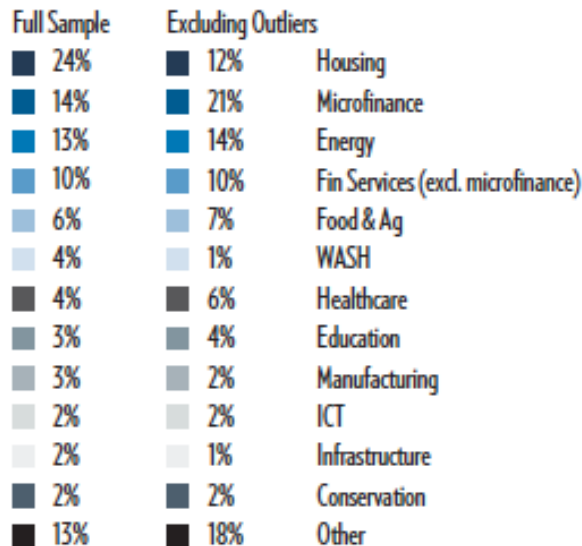


THE
CLIMATE
TRUST

NEED: Moving from emerging/early market to mainstream

- Risk mitigation
 - Pilot Auction Facility
 - Buyer of last resorts/put option contracts
 - Bond guarantees/credit enhancements
 - Buyer commitments
 - Protocol design

\$15.2 billion in impact investing in 2015

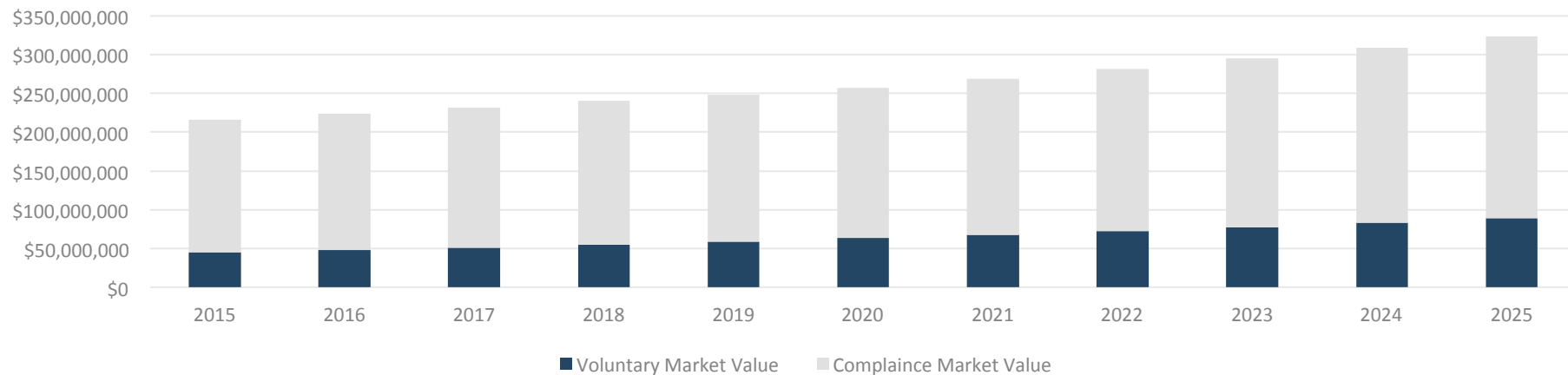


Source: 2016 GIIN Annual Impact Investor Survey



Domestic Carbon Markets – \$2.89 billion total demand through 2025

Voluntary and Compliance Market Demand, 2015-2025



California compliance market key assumptions

- California's cap-and-trade system is extended beyond 2020. From 2021 through 2025, the California Air Resource Board continues to decline the cap at 2% per year.
- Compliance entities in California purchase offsets to cover only 5% of their annual compliance obligation (the maximum available to entities is 8%).
- Offsets are traded at an assumed minimum price, discounted 28% from the estimated regulated floor price for allowances.

Voluntary market key assumptions:

- Demand for voluntary offsets grows at 5% per year.
- Prices start at \$5 per voluntary credit in 2015 and grow by 2% per year to \$6.09 in 2025.



THE
CLIMATE
TRUST

Fund Concept: Finance projects that will rely upon revenues from carbon markets.

Problem: Lenders are unwilling to value revenues from carbon markets (and require projects to be profitable in their absence). Forestry, biogas, and agricultural projects therefore struggle to raise the necessary capital to build and develop new projects.

Solution: Climate Trust Capital will finance projects that will depend upon revenues from carbon markets, through an *upfront investment*.

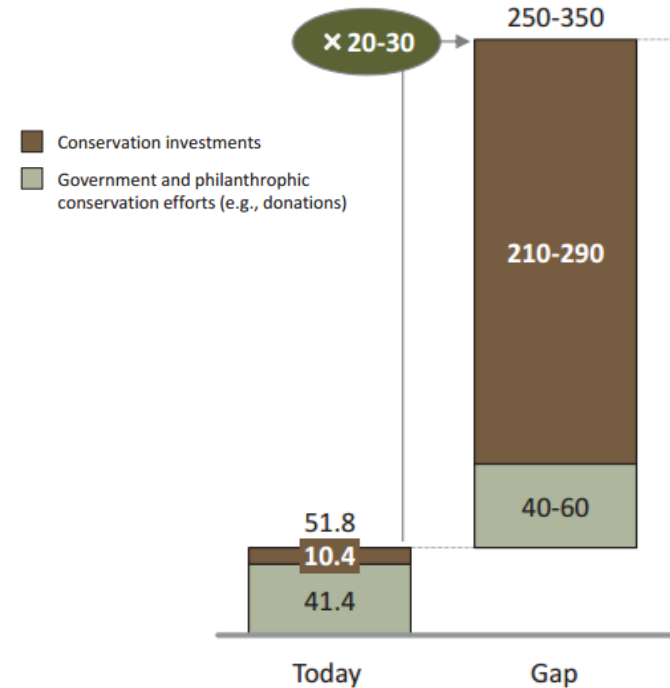


THE
CLIMATE
TRUST

Target: Scale fund investments to be directed at identified sectors

Goals:

1. Pilot \$15 million fund
2. Scale to a \$100 million fund
3. Reduce 20 million tons of greenhouse gas emissions
4. Demonstrate carbon offsets are an investible and reliable asset class



Conservation Finance Gap. Credit Suisse estimates the quantity of conservation finance must multiply by 20 to 30 times to meet global conservation needs. Source: Credit Suisse, World Wildlife Fund, McKinsey. Conservation Finance. January 2014.



THE
CLIMATE
TRUST

THANK YOU!

Sean Penrith

Executive Director

The Climate Trust

spenrith@climatetrust.org

(503)238-1915 x202