

# Offsets: The Californian Experience

BPMR Mission: Korea

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# California ETS

- State-wide cap on GHG emissions
- Program began in 2013 and runs through 2020
- Three compliance periods

Compliance Period	Coverage
2013 – 2014	Large industrial emitters only
2015 – 2017	85% of economy-wide emissions (including transportation fuels & natural gas distribution)
2018 – 2020	



# Carbon Offsets

- Up to 8% of compliance obligation can be fulfilled with offsets

Compliance Period	Year	Allowance Budget (mt CO <sub>2</sub> e)*	Max Offset Demand (8%)
First (narrow scope)	2013	162,800,000	26,800,000
	2014	159,700,000	
Second (broad scope)	2015	394,500,000	91,784,000
	2016	382,400,000	
	2017	370,400,000	
Third (broad Scope)	2018	358,300,000	83,104,000
	2019	346,300,000	
	2020	334,200,000	

# Top-Down Approach = Limited Supply



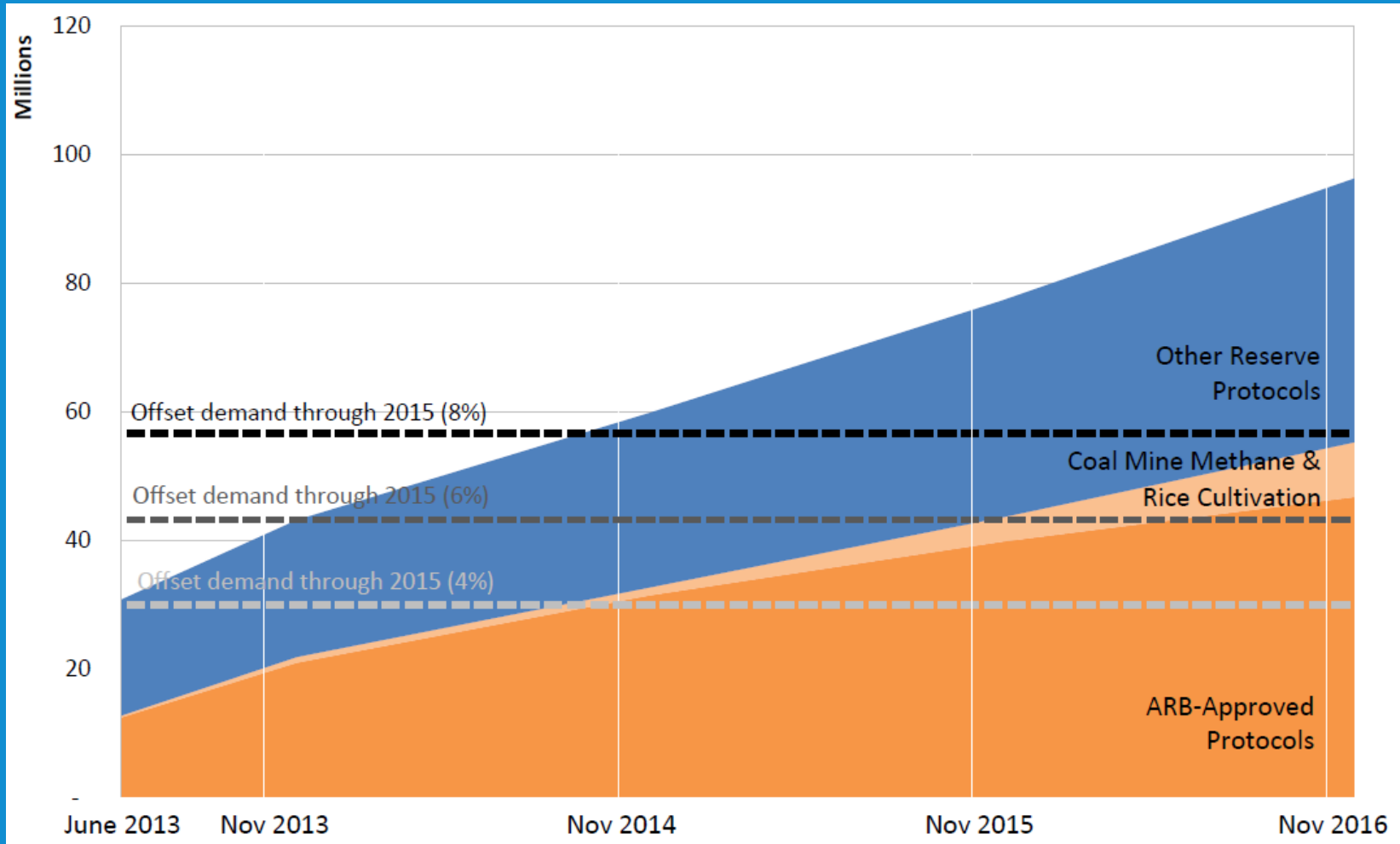
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1. Forestry
    - Reforestation
    - Improved Forest Management
    - Avoided Conversion
  2. Urban forestry
  3. Destruction of ozone-depleting substances (“ODS”)
  4. Livestock methane capture & destruction
  5. Mine methane capture & destruction
- ➔ Avoided methane from rice cultivation under development...

# Offset Credit Projections



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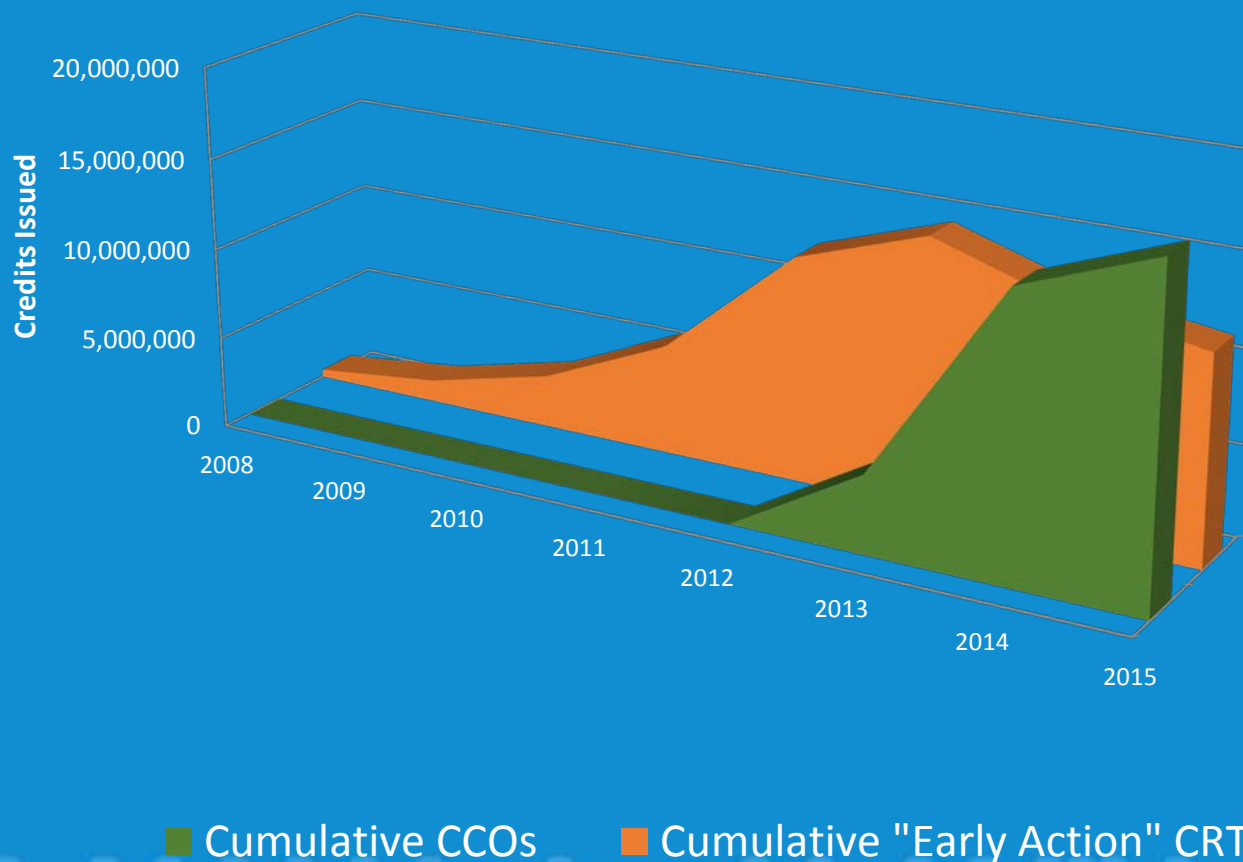


# “Early Action” Pipeline Has Alleviated Some Pressure...



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- Early action credits (“CRTs”) are being converted to compliance carbon offsets (“CCOs”)



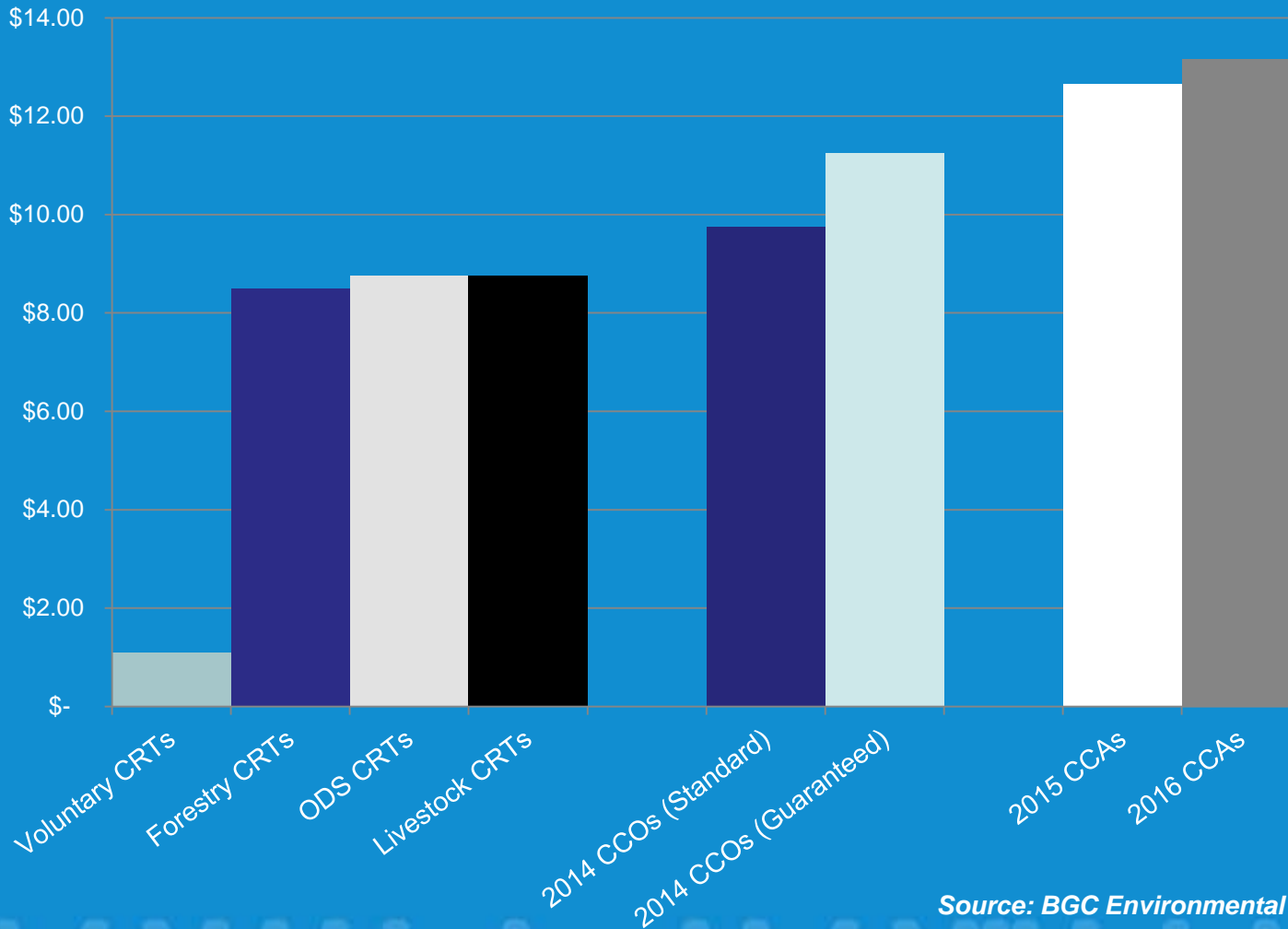


# ...But Obstacles Remain

- **Building Up Administrative Capacity**
  - Processing of projects has been delegated to third-party registries (like CAR), but regulators have still been slow to approve projects (especially early action)
- **Invalidation Risk and Uncertainty**
  - California offsets can be declared “invalid” if errors are discovered post-issuance
  - “Clean Harbors” decision invalidated 88,955 ODS credits based on permitting violations at Arkansas destruction facility (out of 4 million initially scrutinized)



# A Stratified Market



Source: BGC Environmental Brokerage Services





# Looking Forward...

- Lenient initial caps have created some breathing room
- Floor price is maintaining some incentive for current project developers
- But offset credit shortages loom without further action by California regulators...
  - Building administrative capacity and removing backlogs
  - Providing clearer and more timely guidance on invalidation risk and protocol requirements
  - Adopting new protocols for additional project types
  - Including international offsets