

Interactions with the Certificates of Clean Energy (CEL) Market

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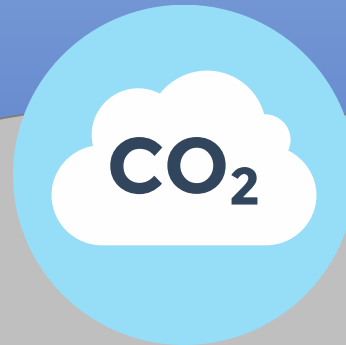
Designing the Aspects of an Emissions Trade System in Mexico
June 22, 2018
Sheraton Maria Isabel Hotel, Mexico City

About Center for Resource Solutions

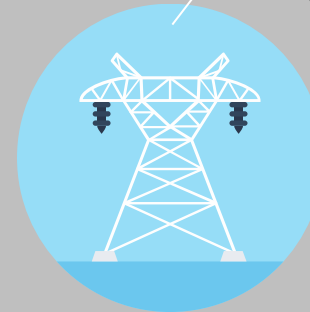
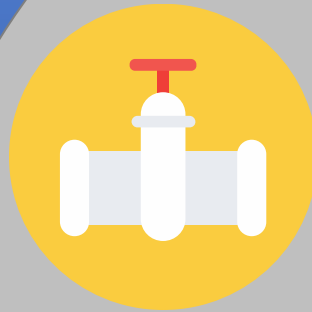
Nongovernmental Organization (NGO) creating policy and market solutions to advance sustainable energy since 1997.

- Renewable energy and climate policy
- Educational programs, including Renewable Energy Markets annual conference
- Green-e[®] certification for suppliers and users of renewable energy and carbon offsets in the voluntary market

ETS



CEL Quota
System



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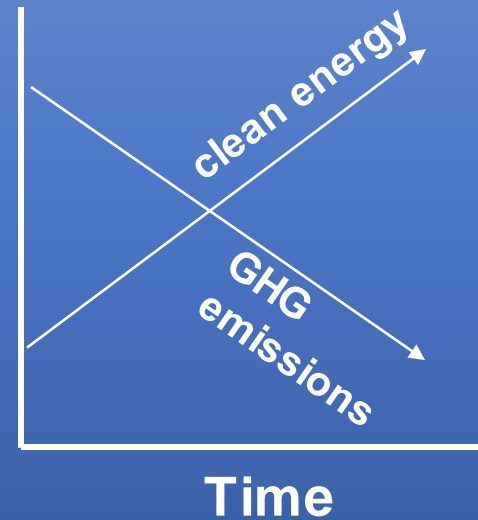
Introduction to CEL Quota System

- Objective: Increase clean electricity generation
- Clean Energy Certificate (CEL): Issued by CRE, 1 CEL for each 1 MWh of clean electricity
- Load Serving Entities (suppliers/large consumers) required to acquire CELs as a proportion of electricity delivery
 - 35% by 2024 (5% in 2018, 5.8% in 2019, 7.4% in 2020, 10.9% in 2021 and 13.9% in 2022)
- Eligible generators: renewables, nuclear, efficient cogeneration, starting operation (or legacy plants that increase clean production) after August 11, 2014



ETS & CEL Quota: Complementary Tools

Increase clean energy, reduced emissions



US Experience: California, Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont



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ETS & CEL Quota: Different Methods

ETS	Quota/CEL System
Compliance: emission sources Multi-sector	Compliance: load serving entities/large consumers Electricity sector
Tonne CO2e emitted Allowance Instrument (also verified offsets)	MWh clean energy generated CEL Instrument
Enforces emissions reduction without guaranteed delivery of clean energy	Enforces delivery of clean energy without guaranteed, economy- wide emission reductions

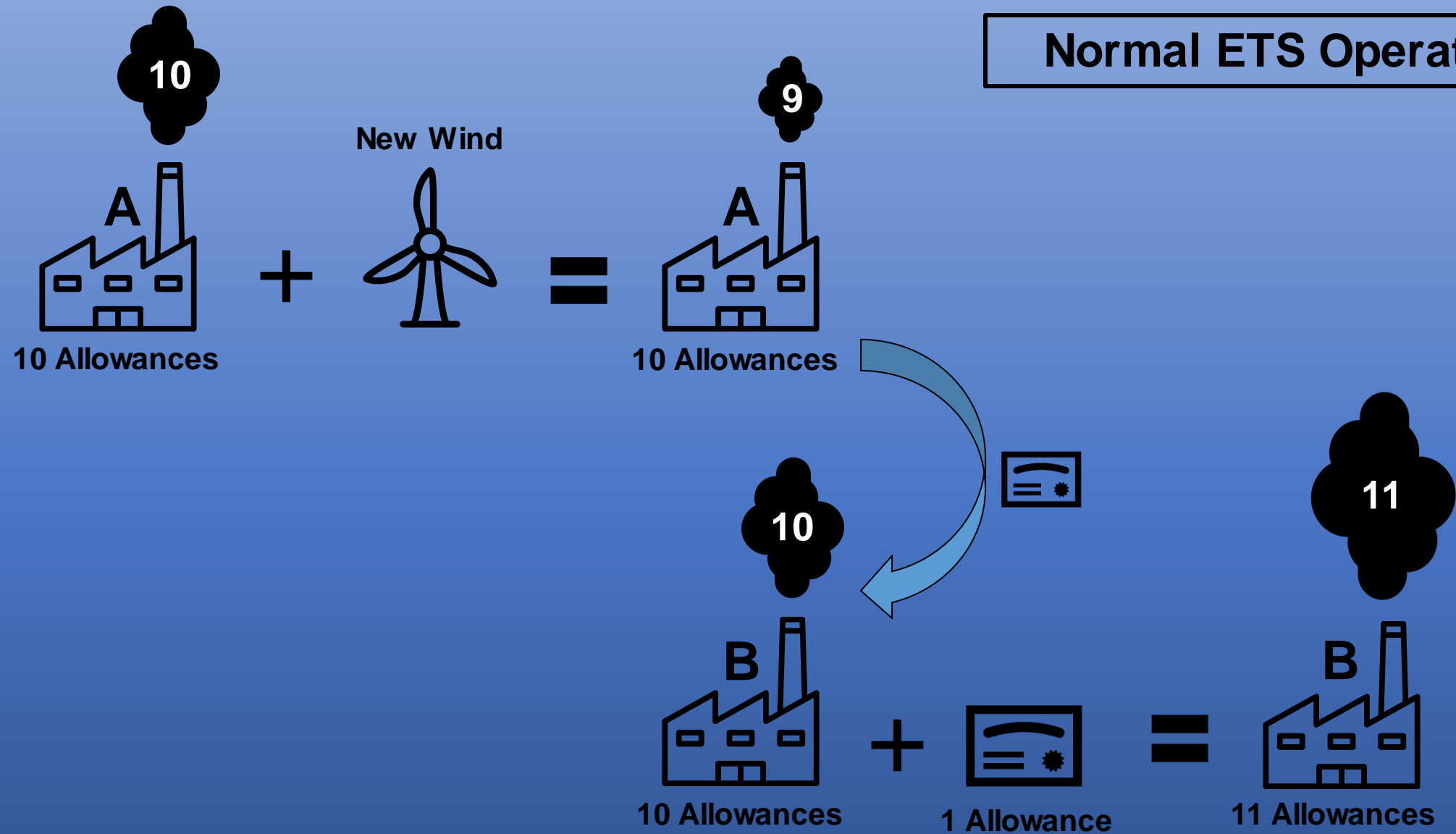


ETS & CEL Quota: Interactions

- Double counting risks
 - Using CELs for ETS compliance
 - Compliance offsets from clean electricity
 - Accounting for emissions associated with electricity imports
- Other ETS design options that can benefit clean energy (besides price on carbon)
- Voluntary Renewable Energy
 - CELs purchased by voluntary buyers and creating incremental carbon benefits (California and RGGI)



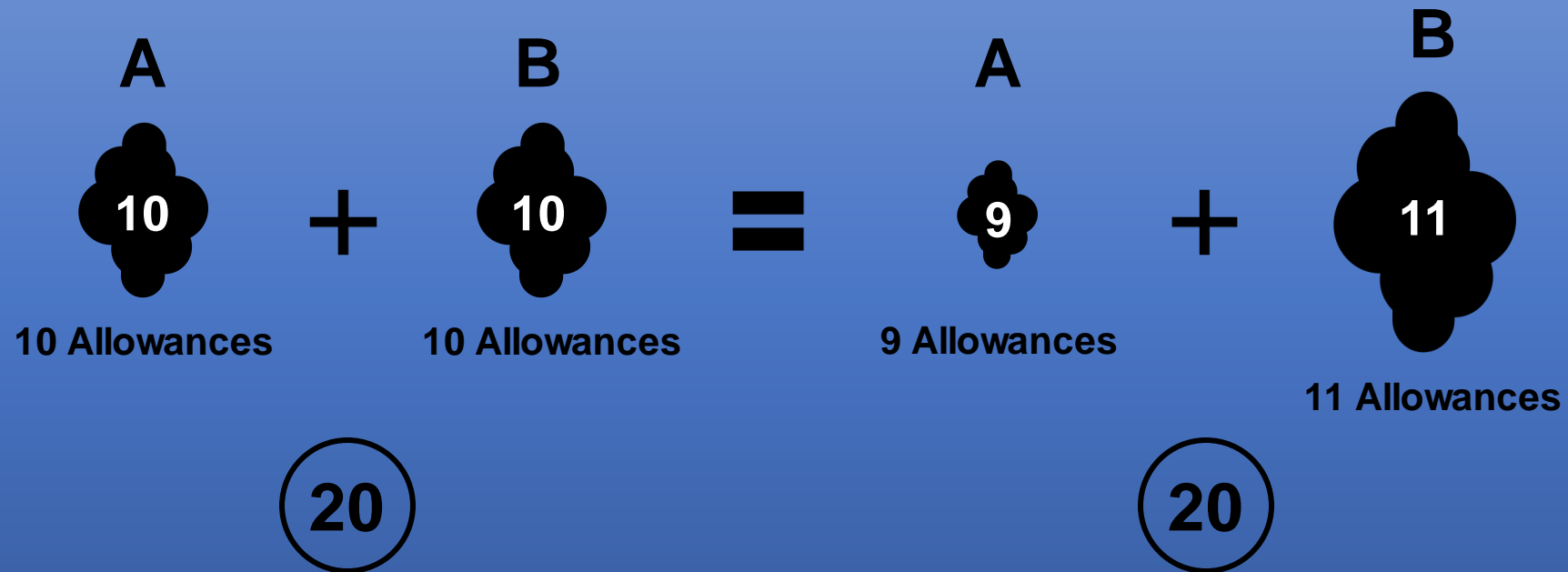
Normal ETS Operations



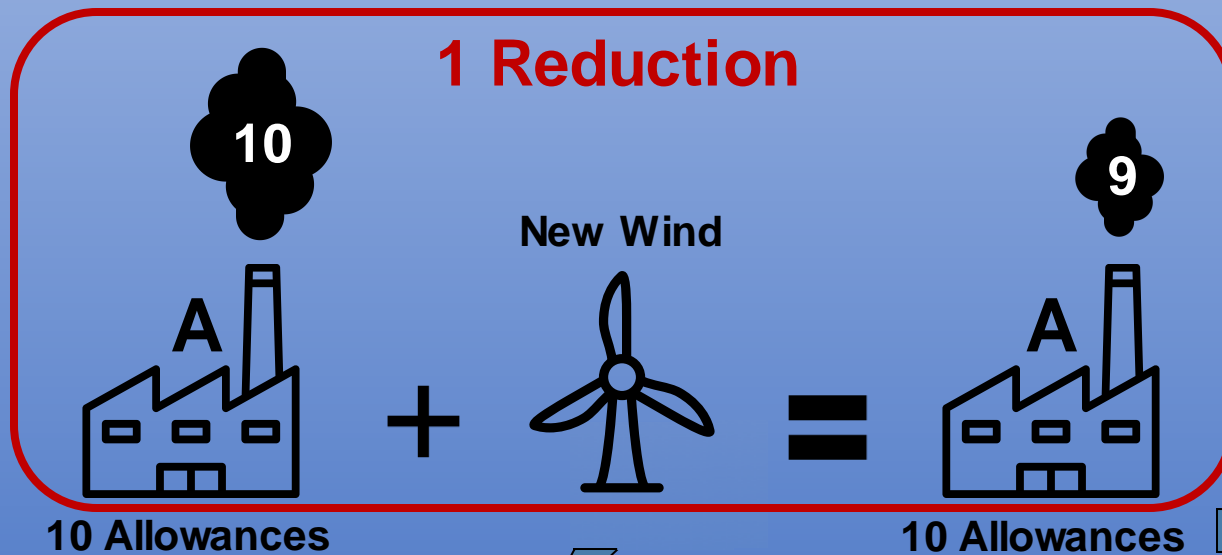
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No Change in Total Emissions

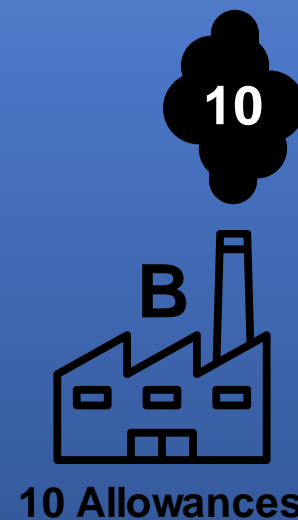


1 Reduction

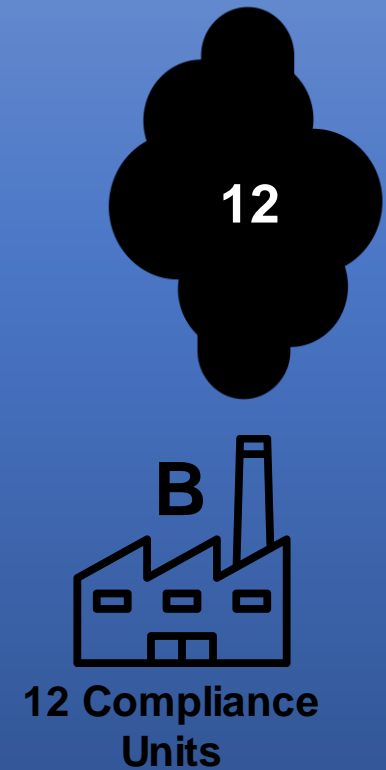


ETS Operations w/ CEL as
Compliance Unit (Offset)

Double Counting



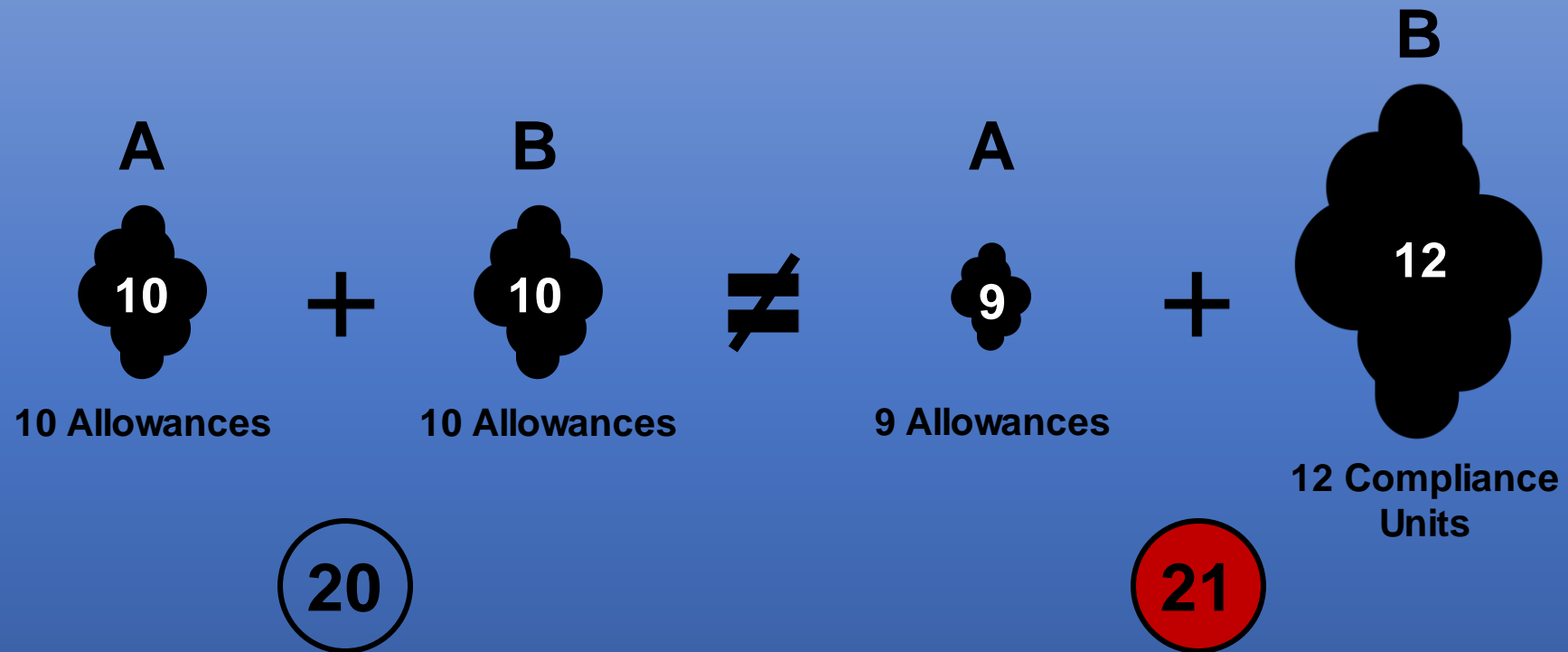
2 Compliance Instruments



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Increase in Total Emissions



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ETS & CEL Quota: “Incrementality”

Meeting the 2020 Emissions Target

California Example

Category	2020 (MMTCO ₂ e)**	
AB 32 Baseline 2020 Forecast Emissions (2020 BAU)	509	
Expected Reductions from Sector-Based Measures		
Energy	25	Clean electricity target with certificates
Transportation	23	
High-GWP	5	
Waste	2	Cap-and-trade with allowances and offsets
Cap-and-Trade Reductions	23*	
2020 Limit	431	

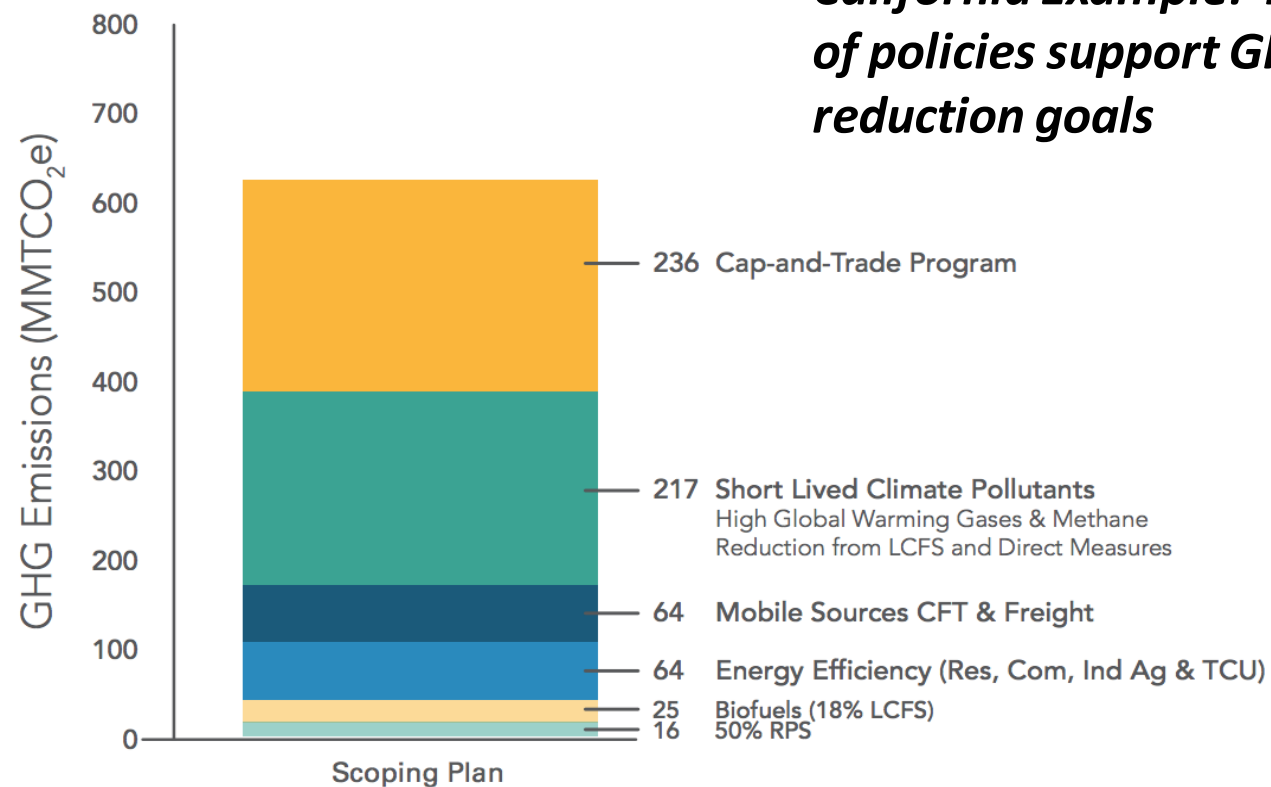
* Cap-and-Trade emission reductions depend on the emission forecast.

** Based on AR4 GWP values.

Source: Brown, Rodriguez, Nichols, and Corey, *First Update to the Climate Change Scoping Plan: building the Framework Pursuant to AB32 The California Global Warming Solutions Act of 2006*, May 2014, p. 93.

ETS & CEL Quota: “Incrementality”

FIGURE 7: SCOPING PLAN SCENARIO – ESTIMATED CUMULATIVE GHG REDUCTIONS BY MEASURE (2021–2030)⁶⁴



Source: California Air Resources Board. California's 2017 Climate Change Scoping Plan. November 2017. Pg. 28.



Summary

- ETS and the CEL quota system can coexist
- Separate, independent instruments and compliance
- Avoid double counting
 - CELs not used for ETS compliance
 - Offsets only from outside capped sectors
 - Synchronize accounting for emissions from electricity imports
- Complementary policies support achievement of ETS carbon reductions



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