The Role of Carbon Offsets in Cap-and-Trade

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CLIMATE ACTION RESERVE

The Climate Action Reserve

- Founded as the California Climate Action Registry by state legislation in 2001
  - Encourage early voluntary actions to reduce emissions
- Members include leading businesses, government agencies, educational institutions, non-profits, and others across US
  - Over 350 members and 730 million metric tons CO_2e registered for years 2000 – 2007
  - Members now transitioning to The Climate Registry

The Climate Action Reserve

- Carbon offsets registry that sets high quality standards and registers and tracks offset projects throughout the U.S.
- Ensures environmental benefits of offsets while upholding integrity and financial value
- Will become primary focus of CCAR
  - Until now, U.S.-based projects only
  - Expanding to Mexico and Canada

What Is A Carbon Offset?

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- *General Concept*: A reduction in greenhouse gas (GHG) emissions achieved in order to compensate for emissions somewhere else
- *In a Trading System*: A permit to emit GHGs issued when a verified reduction occurs at an unregulated source of emissions

Carbon Offsets in Cap-and-Trade

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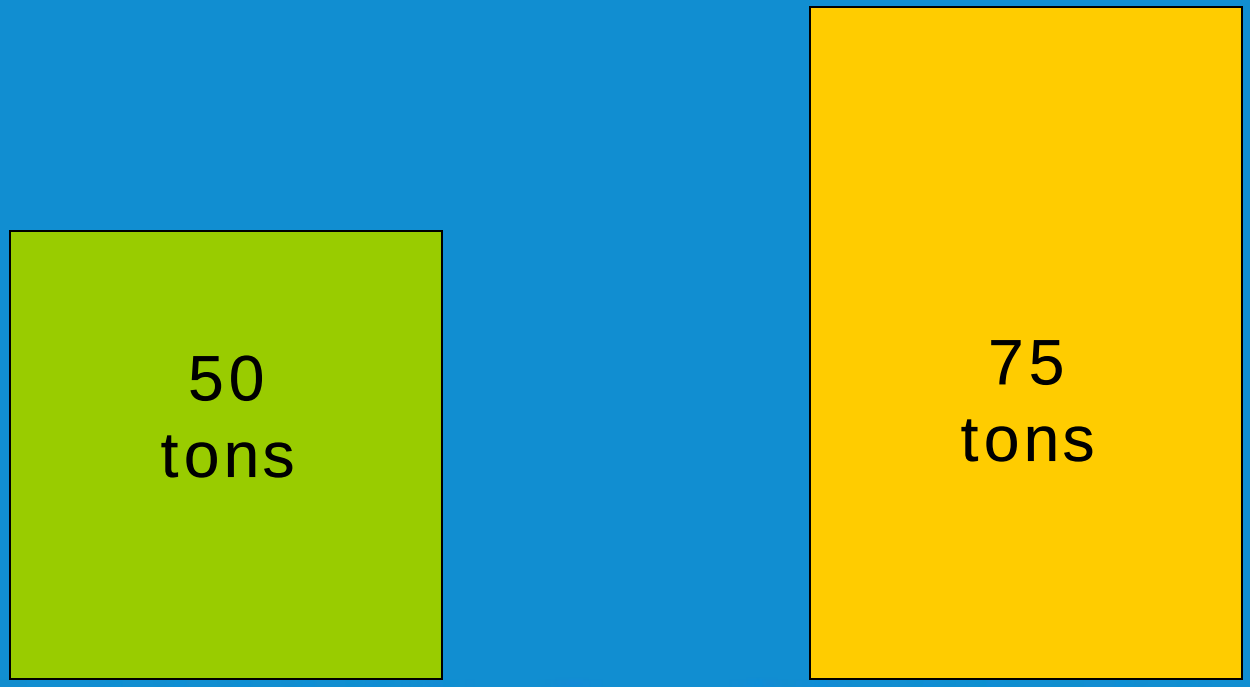
No Offsets

capped emissions

uncapped emissions



Carbon Offsets in Cap-and-Trade

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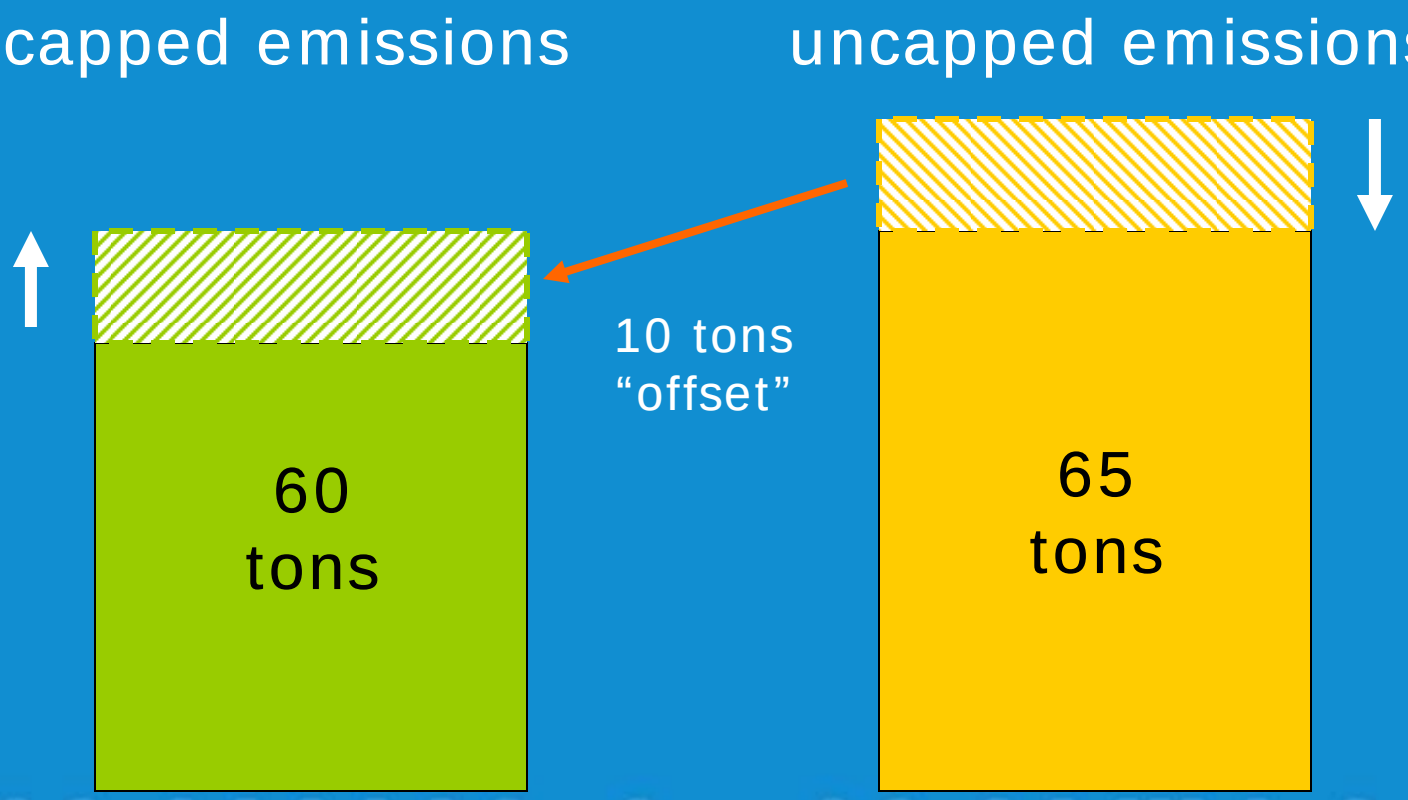
With Offsets



Role of Offsets

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- Offsets are a part of the solution to climate change
  - Obtain reductions in uncapped sectors
  - Spur new technologies
- Voluntary Market
  - Support climate neutral claims
- Compliance Programs
  - Provide economic efficiency, price pressure relief
  - Can also be used to reduce more emissions faster
- **Must ensure environmental integrity to be effective**

Integrity: The Big Five

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1. **Real:** Quantified emissions reductions must have actually occurred (not be projected to occur) and are not merely artifacts of incomplete or inaccurate accounting.

2. **Permanent:** Reductions (or removals, in the case of sequestration) should be permanently removed from the atmosphere, and/or be backed by replacement mechanisms if they are re-emitted to the atmosphere (i.e., are “reversed”).

Integrity: The Big Five

CLIMATE ACTION RESERVE

3. **Additional:** Reductions should be the result of a response to the existence of a market for such reductions; that is, they should not be reductions that would have happened anyway (aka “surplus”).
   3. Not required by regulation and not part of a capped sector.

4. **Verifiable:** Reductions should result from projects that can be accurately monitored and verified.

5. **Enforceable:** Reductions should be supported by legal instruments that define their creation, provide for transparency, and ensure exclusive ownership.

Standards for Defining Offsets

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- Accounting Standards: *Real, Permanent, Additional*
  - Detailed protocols for quantifying baselines, boundaries, emissions reductions, establishing thresholds for determining additionality, addressing leakage and permanency.
- Procedural/Technical Standards: *Verifiable*
  - Methods for the validation, monitoring, and verification of offset projects, as well as the certification and crediting of GHG reductions.
- Contractual Standards: *Enforceable*
  - Requirements for the establishment and transfer of property rights related to offsets, for information disclosure, and can include terms for addressing contractual violations.

Evaluating Project Types

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- Likely to be regulated or capped?
- How certain is the science?
  - Existing credible methodologies or protocols?
  - High quality datasets related to the sector?
- Potential volume of GHG reductions?
- Amenable to standardization and use of performance-based thresholds?
- Direct or indirect emission reductions?
  - Can ownership be clearly established?
- Create environmental co-benefits or externalities?

Protocols in Process/Under Consideration

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- **Industrial Processes**
  - Coal mine methane*
  - Industrial gas destruction
    - Ozone Depleting Substances*
    - N_2O from Nitric Acid Production*
    - Others?
- **Transportation**
  - Bus fleet upgrades
  - Truck stop electrification
- **Agriculture and Biological Sequestration**
  - Waste diversion: composting and co-digestion*
  - Agricultural practices: grassland/rangeland management, soil sequestration, etc
- **International**
  - Mexico landfill and agricultural methane*
  - Canada

New potential project areas are evaluated regularly.

* Protocols currently in process

SF_6

- Possible Projects: SF_6 leak reduction from existing applications OR replacement with alternative gas
- Scores well on several criteria:
  - High quantifiability
  - Significant potential volume of reductions
  - Direct reductions
  - Amenable to standardized protocols (e.g., RGGI protocol)
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- Outstanding Issues/Questions:
  - Already strong voluntary commitments (and measured reductions) with industries
  - Pending and future regulation?
  - Expense of SF_6 - financial incentive to manage?
  - Substitutes available?