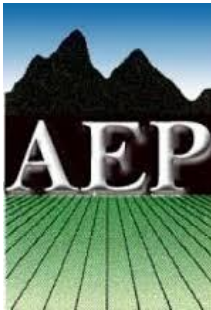




CEQA and GHG Credits as Mitigation



Presented by:
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Brian Schuster, ESA

26 September 2019

Presentation Outline

- **Definitions**
- **CEQA Requirements**
 - GHG Thresholds
 - CEQA Guidelines and GHG Credit
 - California Agencies and GHG Credits
 - California Courts and GHG Credits
- **Potential Demand for GHG Credits**
- **Using GHG Credits in CEQA**
- **GHG Credits – State of the Market**



Legal Disclaimer

- ✓ ICF and ESA are not law firms; we don't give legal advice.
- ✓ Talk to your friendly neighborhood CEQA counsel when seeking legal advice!

Definitions

- **GHG Credit:**

- Generic term referring to a reduction in GHG emissions. Could include offsets, FMUs, etc.
- Measured in terms of 1 MT CO₂ equivalent. 1 credit = 1 MTCO₂e.

- **GHG Offset:**

- General term commonly used for an action separate from a project or facility that reduces GHG emissions and may be past or future.
- Climate Action Reserve uses "offset" to only refer to reductions in GHG emissions that have already happened and subject to rigorous ex-post monitoring and verification of activities

- **GHG Forecast Mitigation Unit (FMU):**

- Climate Action Reserve uses this term to refer to reduction actions now that will produce a future stream of GHG emissions reductions.

CEQA GHG Thresholds: Inside the “Safe Harbor”

- Net reduction in GHG emissions
- Zero Net Greenhouse Gas Emissions (ZNG)
- Consistency with “qualified” GHG reduction plan
- Coverage under Cap-and-Trade (directly regulated sources only)



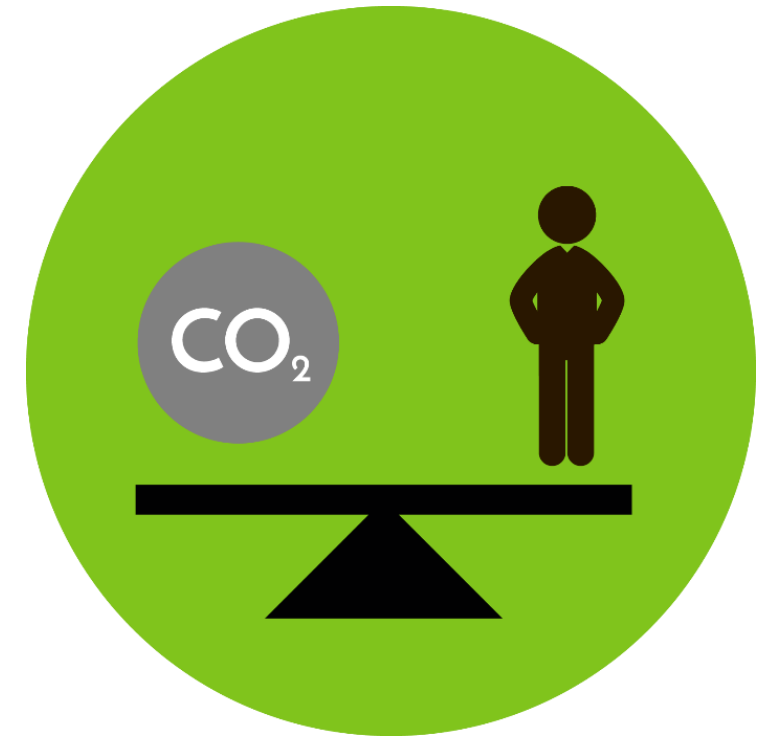
CEQA GHG Thresholds: Potentially Outside the “Safe Harbor”?

- Mass Emissions Thresholds
Consistent with SB 32 (or with
2045/2050 targets in EOs?)
- GHG Efficiency Thresholds
Consistent with SB 32 (or with
2045/2050 targets in EOs?)
- Consistency with CARB Scoping Plan



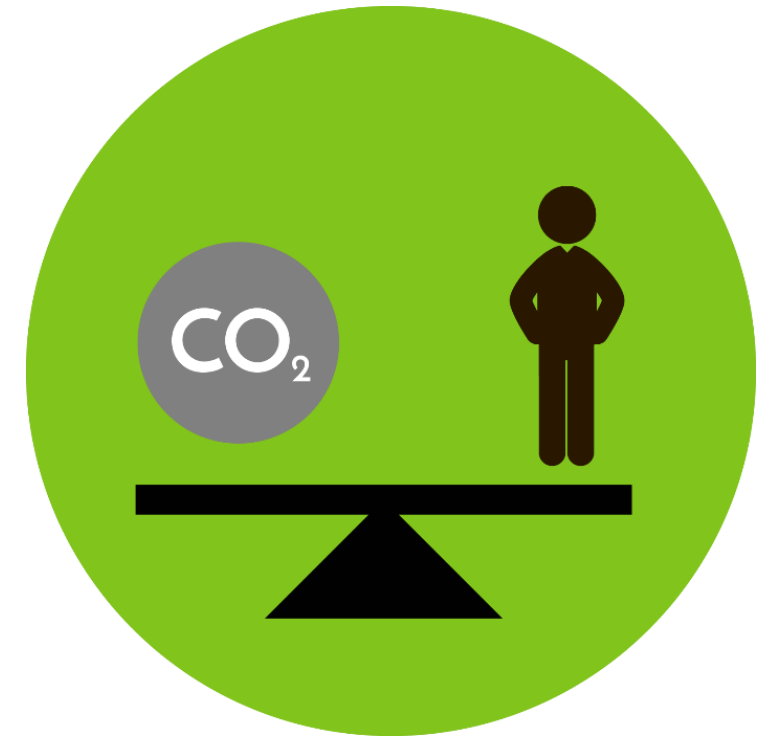
CEQA Guidelines and GHG Credits

- **CEQA Guidelines 15126.4 (c)(3)** specifically mentions “*Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions*” as one option for GHG mitigation
- **CEQA Guidelines Section 151370(e):** “*Compensating for the impact by replacing or providing substitute resources or environments...*”
- **CEQA Guidelines Section 15364:** As feasible mitigation, offsets must be “*capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.*”



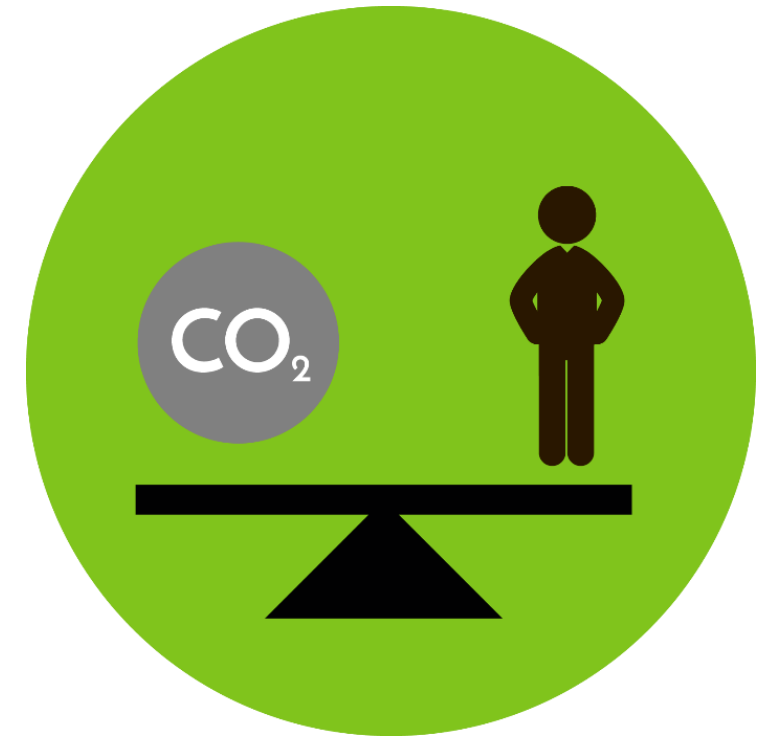
California Agencies and GHG Credits

- **Natural Resources Agency Final Statement of Reasons (2009): Offsets consistent with the existing CEQA Guidelines § 15370(e):**
 - “As subdivision (e) implies, off-site measures may constitute mitigation under CEQA, and such measures have been upheld as adequate mitigation in CEQA case law.”
 - “The efficacy of any proposed mitigation measure is a matter for the lead agency to determine based on the substantial evidence before it.”
- **CARB 2017 Scoping Plan:**
 - “Where further project design or regional investments are infeasible or not proven to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits.” (pp. 102)
 - Establishes clear preference for onsite and local measures that achieve co-benefits before turning to off-site offsets



California Courts and GHG Credits

- ***Our Children's Earth Foundation v. California Air Resources Board*, 234 Cal. App. 4th 870 (2015).**
 - Upheld the use of offsets to implement the Cap-and-Trade program and the additionality of the offsets.
- ***California Native Plant Society v. City of Rancho Cordova* (2009) 172 Cal. App. 4th 603, 619-626.)**
 - The court rejected the notion that a wetlands mitigation measure relying on a “no net loss” performance standard had to identify specific off-site mitigation areas.
- ***Sierra Club v. San Diego County* (2018)**
 - Petitioners argue that “offshoring of GHG emissions offsets” had been done without proper review under CEQA.
 - Petitioners argue that reductions outside of San Diego County do not meet General Plan and Climate Action Plan requirements to reduce GHG emissions in the County
 - Petitioners argue that there is insufficient rigor in Administrative approval procedures of offsets.



Statewide Estimate of Potential GHG Credit Demand (Assuming 50% of reductions)

Metric	New Development Approved 2018 to 2030 ^a			New Development Approved 2018 to 2045 ^b
	Average GHG efficiency Threshold	15% < Avg. GHG efficiency Threshold	ZNG Threshold	ZNG Threshold
GHG Emissions	1,088,200,000			1,992,800,000
Demand for GHG Credits (if 50% of reductions requires)	299,500,000	336,150,000	544,100,000	996,400,000

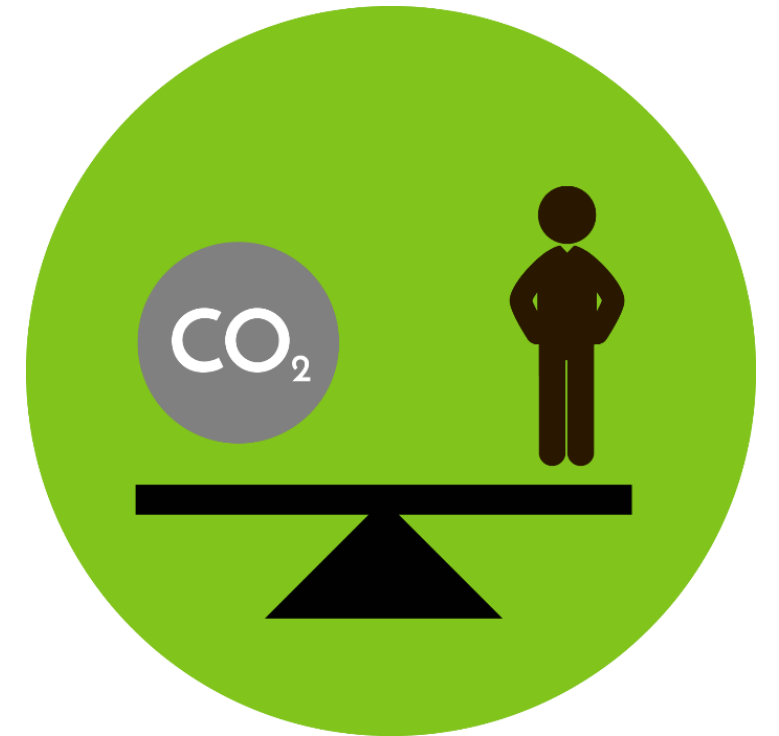
Notes:

^a These scenarios presume state regulated reductions for 2030 (such as RPS) apply before mitigation. Development emissions presume 30 year lifetime.

^b This scenario presumes state regulated reductions for 2045 (such as RPS) apply before mitigation. Over time, the mitigation burden will go down as regulated reductions take place. For example, as the RPS improves, there are fewer electricity emissions to address. Development emissions presume 30 year lifetime.

Bottom Line on CEQA Requirements

- GHG Credits allowed by CEQA Guidelines
- GHG Credits for CEQA held up in Court
- “Proper” GHG Credits can be CEQA mitigation
- Use is accelerating
- Health Warning Fine Print:
 - Beginnings of legal challenges (see *Sierra Club v. San Diego County* 2018 trial court ruling)
 - Political (but not necessarily CEQA) issues about the location of offsets/FMUs in regards to co-benefits and environmental justice
 - Credits need to meet strict standards of “additionality” and be real, verifiable, and enforceable



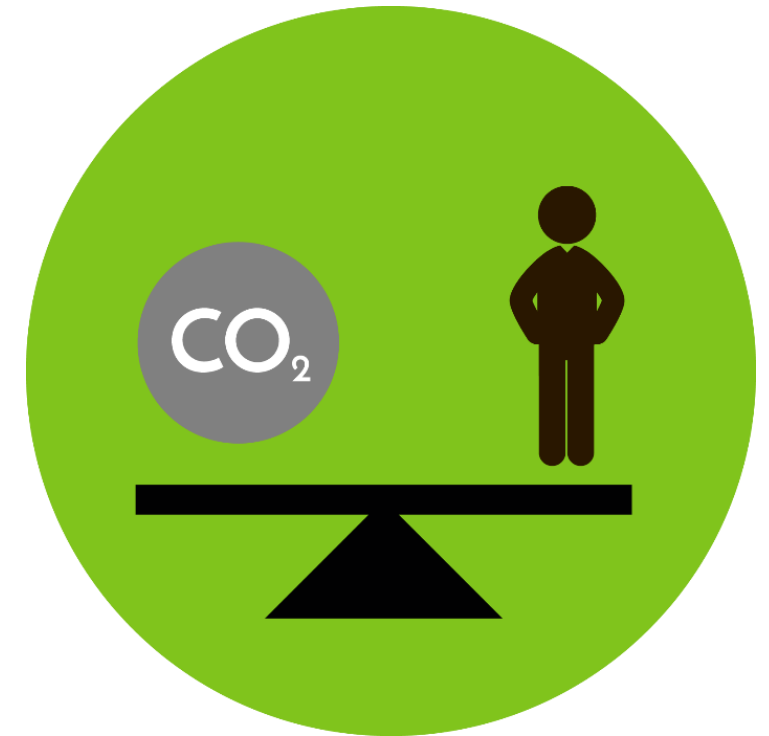
When should credits be used in CEQA?

1. Consider all onsite actions and mitigation measures

- a) Consistency with GHG Plans (e.g. Scoping Plan, SCS, CAP)
- b) Alternatives and variants
- c) Project design features (e.g. efficiency, electrification, TDM)
- d) Mitigation measures (e.g. solar PV, EV charging, alternative fuels)

2. Then use credits

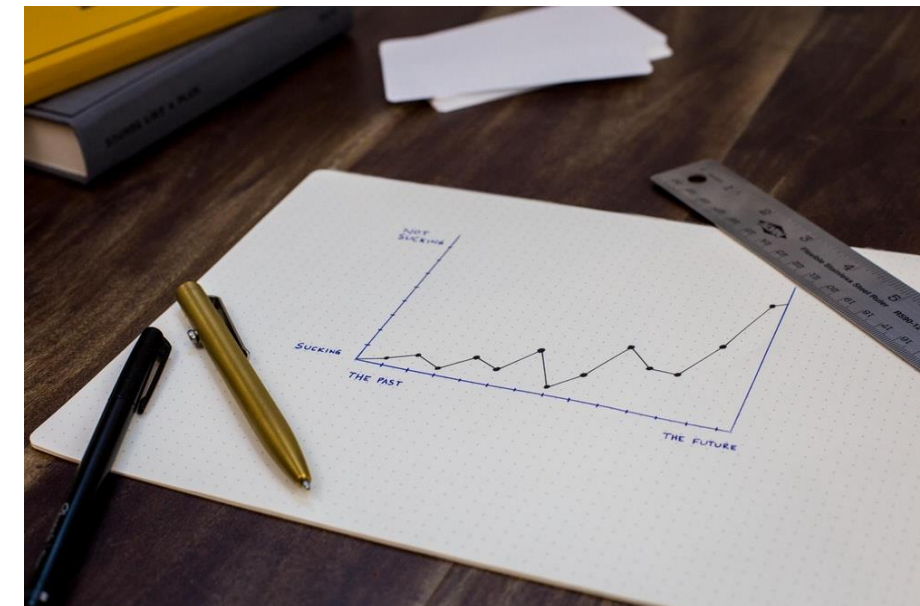
- a) Local: opportunities to reduce emissions in the local community: e.g. local or regional investment in building retrofits, EV charging, solar PV, etc.
- b) Regional / Statewide / National: credits as close to the project site as feasible, and within California if possible.
- c) Credits should be created and confirmed or verified through rigorous protocols.



Estimating Credits Needed



1. **Quantify** – estimate GHG emissions associated with the Project
2. **Reduce** – reduce project-level emissions with onsite design features (such as energy efficiency and solar PV) and onsite mitigation measures
3. **Offset** – use credits to close “gap” between mitigated emissions and threshold



Level of Detail in CEQA Document

■ Quantification



- How many credits after mitigation
- Assumptions, such as changing GHG intensities
- “GHG Reduction Plan” to assess over time

■ Agreement



- Applicant, lead agency, other parties
- Timing: monitoring, compliance, purchases

■ Confirmation / Validation

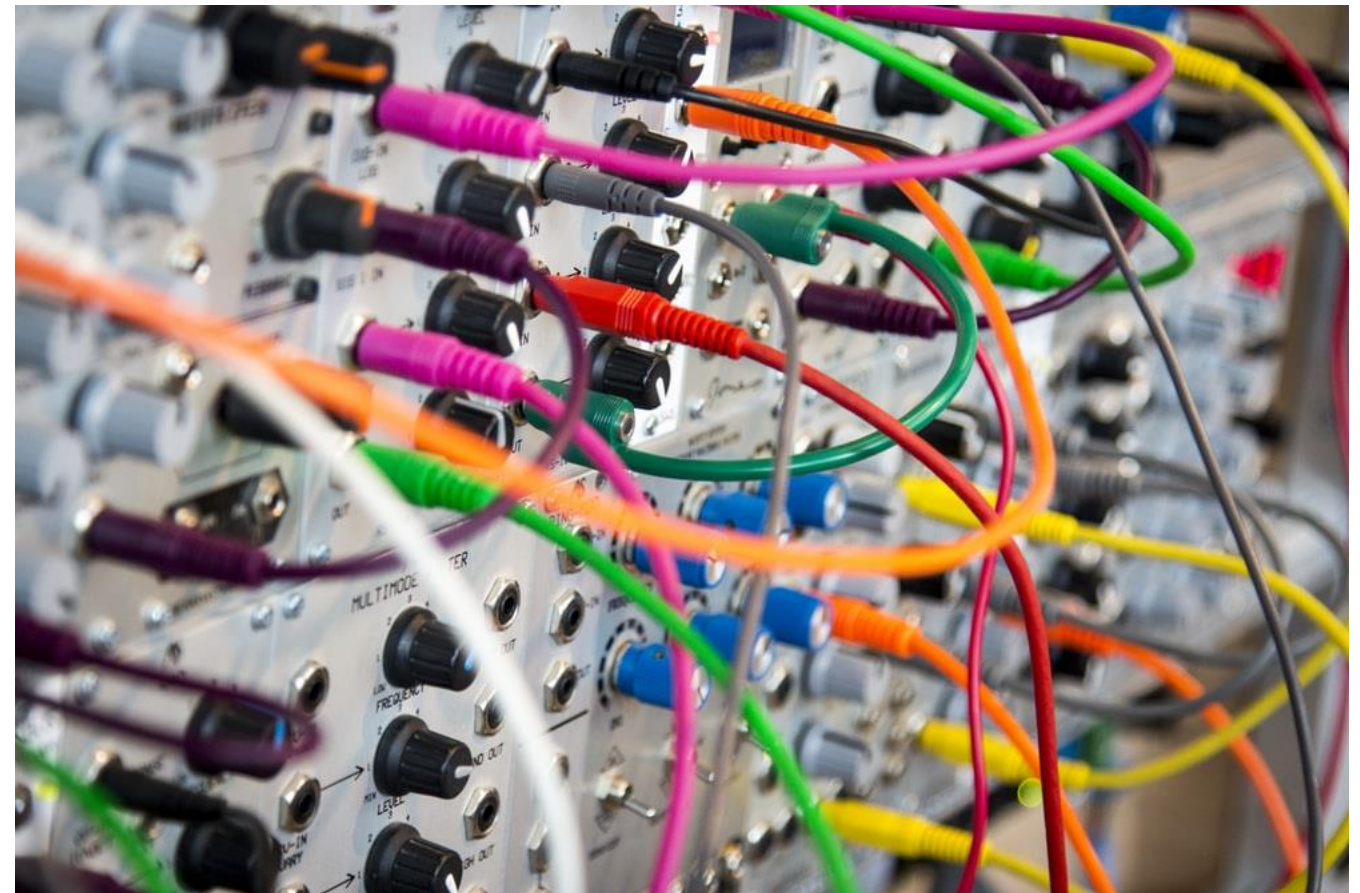


- Identify credit standards
- Location priority

■ Reporting / Monitoring



- Annual reporting and credit purchase
- Documentation of compliance



Does Location Matter?

- **NO** – Not for CEQA, as long as the Credit is effective
 - Climate change is GLOBAL
 - CEQA cannot require a specific location, only that impacts are mitigated
 - Confirmed GHG credits reduce GHG emissions regardless of location
 - However, consider the following priority:
 1. Within the local community or city
 2. Within the County or region
 3. Within the State
 4. Within the U.S.
 5. Internationally
- **What if my GHG threshold is based on SB32 *Statewide* targets? Are out-of-state credits appropriate?**
 - YES: credits are additional; no other entity may claim ownership
 - Offsets are allowed under Cap & Trade for entities to reduce their covered emissions
 - 2017 Scoping Plan identifies carbon credits as appropriate / feasible CEQA mitigation



Does Location Matter?

- **YES** – but as a social and policy matter (not CEQA)
 - This is a policy matter for the communities, cities, air districts, state, etc.
 - Local or regional credits may have “co-benefits”
 - ozone precursor emissions, TAC emissions, public health
 - Local jobs, economic benefits, community character
 - environmental justice, disadvantaged communities, citywide planning
 - Prioritize local/regional credits if feasible, to realize these co-benefits
 - CEQA not well aligned to address social and policy issues: Under CEQA can only nexus and mitigation effectiveness
- **What about AB 617 and disadvantaged communities?**
 - Cities / Counties and air districts may have a clear preference for local credits
 - Up to the lead agency to set standards and requirements
 - Example: AB 734 Oakland A's Ballpark & Mixed-Use Development Project



Example AB900 Projects

- **Certain CEQA streamlining benefits are provided to “environmental leadership” projects that meet certain conditions**
 - No net additional GHG emissions
 - CARB must certify GHG reduction strategy for project
 - To date, many AB 900 projects have relied heavily on purchasing carbon offsets and credits to achieve carbon neutrality
 - Therefore, CARB has approved the use of offsets in the AB 900 context for CEQA
 - Projects:
 - Oakland Sports and Mixed-Use Project at Howard Terminal (Oakland)
 - Potrero Power Station Mixed-use Project (SF)
 - Balboa Reservoir (SF)
 - Inglewood Basketball and Entertainment Center
 - 1045 Olive Street Project (LA)



AB 734: Oakland A's Ballpark & Mixed-Use Project

- Replaces the Coliseum with new ballpark and mixed-use development
- AB 734 requires “no net additional GHG emissions”
- At least 50% of GHG reductions must be from “*local, direct greenhouse gas emissions reduction measures that give consideration to criteria air pollutant and toxic air contaminant emissions reductions*”
- Purpose: “*maximize public health, environmental, and employment benefits*”



Are offsets just hiding the real problem?

■ Why should we allow developers to buy their way out?

- If \$\$ will be spent, why not encourage the most cost-effective solutions?
- Funding large-scale solar or community retrofits may have more GHG bang-for-the-buck than squeezing every last drop out highly efficient new development
- Lack of influence over certain emission sources; e.g. vehicle efficiency, grid electricity, state policy, customers' energy use habits
- Local credits may not be available in the quantities needed
- Off-site credits are just as effective (for GHG emissions) as local measures



■ But how do we encourage *real* behavior change?

- Build efficiencies into the project and identify feasible on-site mitigation
- Prioritize local credits that encourage behavior change and co-benefits
- To effectively combat climate change, we need behavior change at a statewide, national, and international level



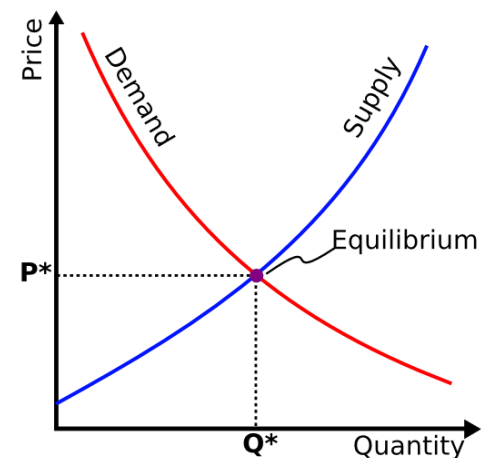
How available are local credits?

- The sheer scale of the CEQA credit market is a barrier
- According to Element Markets:
 - Total offset demand* identified in existing CEQA EIRs = 20 million tons
 - Total supply[§] of non-CARB Cap & Trade offsets = 8-12 million tons
 - Does not include international offsets which is a much larger market
- ICF Case Studies (see above) are *cumulative*:
 - Account for all new development from 2018 to 2030 / 2045
 - Represent 30 years of annual reductions
 - Cumulative credits each year include projects built in prior years
- Scale of reductions in local market is very small
 - E.g., Newhall identified local projects that generate credits in the hundreds, not thousands or millions



How available are local credits?

- Available offset supply is currently short of pending CEQA offset demand
- CEQA projects are not the only demand type putting pressure on the market (e.g. corporates, universities, airports, CORSIA, etc.).
- **Good news:**
 - with the increase in demand, offset pricing has also increased
 - pricing increase has incentivized more offset project development
 - Result = more GHG reductions!



CLIMATE FORWARD▶

Offsite GHG Mitigation Credit Options for CEQA

AEP Los Angeles County Chapter I September 26, 2019

Craig Ebert, President, Climate Action Reserve



CLIMATE
ACTION
RESERVE

- Introduction
- Rationale for Climate Forward
- Target Audience
- Key Design Features
- Climate Forward and CEQA
- Credit Procurement
- Using Climate Forward

GHG Accounting Experts

- Pioneered standardized GHG accounting, leading to robust, reliable, and transparent compliance and voluntary carbon markets
- 78% of North American offset credits used by companies and individuals in 2017 in the voluntary market* were issued by the Reserve
- Design innovative GHG accounting frameworks that are user-friendly, and financially feasible

Beyond Carbon Offsets

- **Climate Forward**
- Climate Impact Score
- GHG policy consulting
 - Mexico
 - Ontario
 - Quebec
 - World Bank, USDA, USAID
 - California agencies, and more



CLIMATE
ACTION
RESERVE

Climate Action Reserve GHG Accounting Standards

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- GHG mitigation credits represent emissions reductions as a result of some activity that is above “business as usual”
- These credits are used to balance against emissions elsewhere

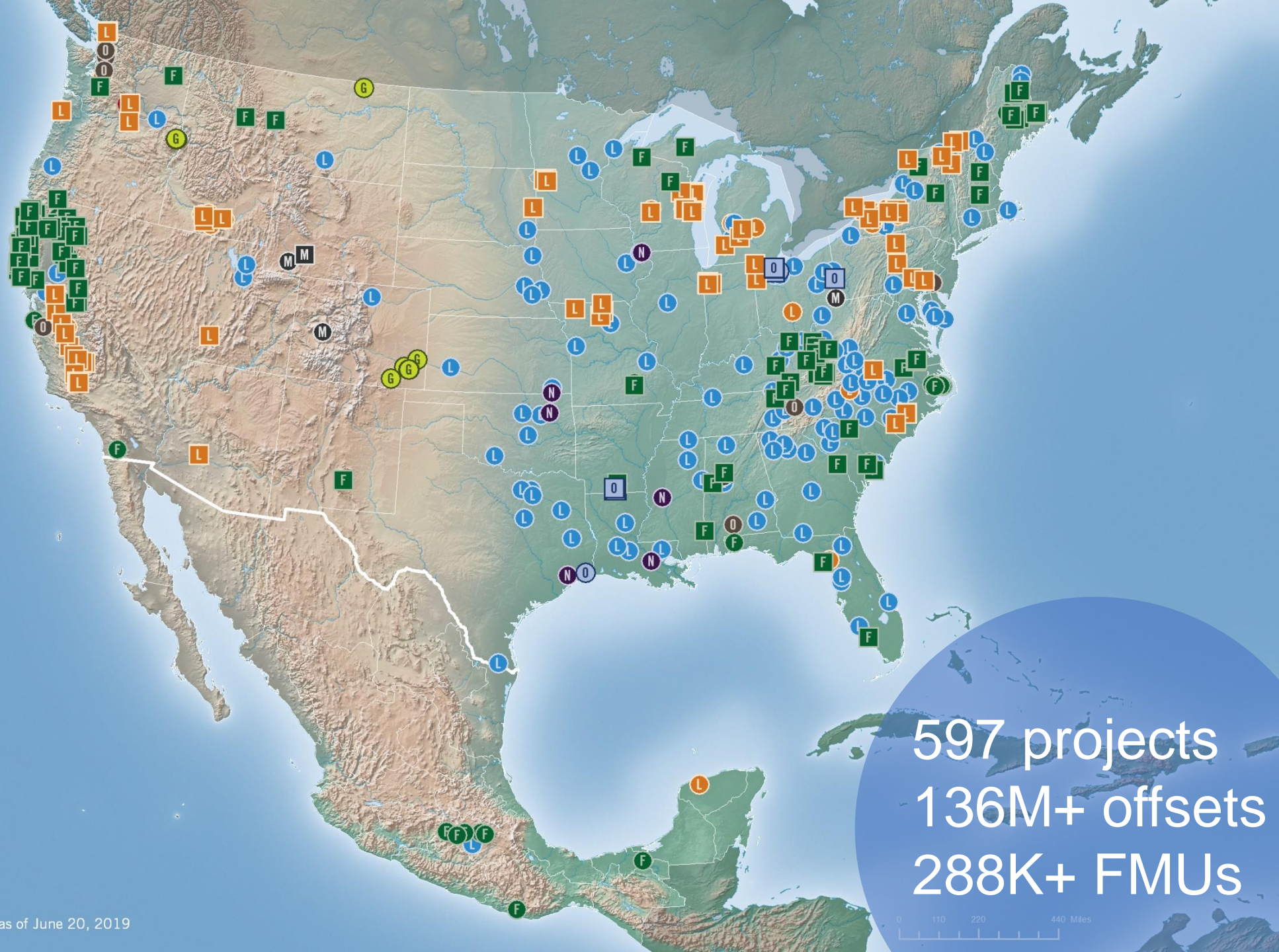
REAL	ADDITIONAL	PERMANENT	VERIFIABLE / CONFIRMABLE	CLEAR OWNERSHIP
Accounting is conservative, comprehensive, scientifically credible	Reductions would not have occurred in the absence of the carbon market	Reductions or removals persist for at least 100 years, accounting for any reversals	Methods are replicable; Third-party verification occurs prior to credit issuance	No other parties may reasonably claim ownership of reductions



CLIMATE
ACTION
RESERVE

- F Forest (ARB)
- L Livestock (ARB)
- M Mine Methane (ARB)
- O Ozone Depleting Substances (ARB)
- O Composting
- F Forest
- G Grassland
- L Landfill
- L Livestock
- M Mine Methane
- N Nitric Acid Plants
- N Nitrogen Management
- O Organic Waste Digestion
- O Ozone Depleting Substances

Listed, Registered, Transitioned, & Completed Projects as of June 20, 2019



597 projects
136M+ offsets
288K+ FMUs

0 110 220 440 Miles



WE ARE OUT OF TIME

**MORE STRATEGIES AND
INVESTMENTS IN CLIMATE
MITIGATION IS NEEDED**

**ALL FUTURE PROJECTS THAT
INCREASE GREENHOUSE GASES
SHOULD BE
*CARBON NEUTRAL***

**When is it defensible to mitigate CEQA
GHG emissions impacts with GHG credits?**

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ALWAYS!!!!

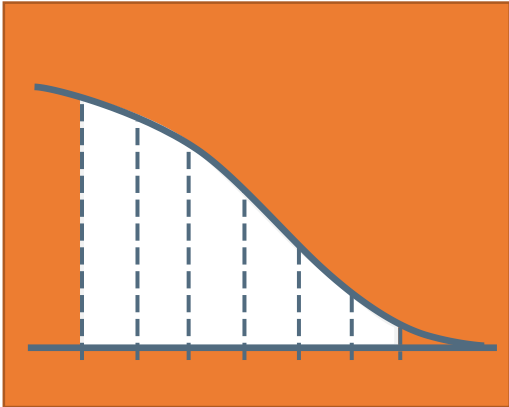
Accelerating Climate Mitigation: CLIMATE FORWARD

CLIMATE FORWARD

Offsets

Climate
Reserve
Tonnes

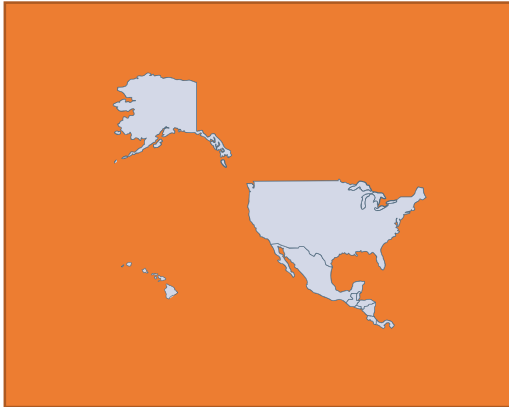
1 CRT = 1 tCO₂e of
achieved reductions



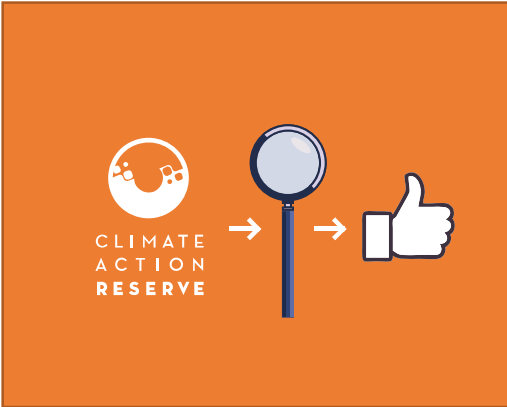
Issued for achieved
GHG reductions



Used to mitigate any
emissions



Protocols available for
US- and Mexico-based
projects

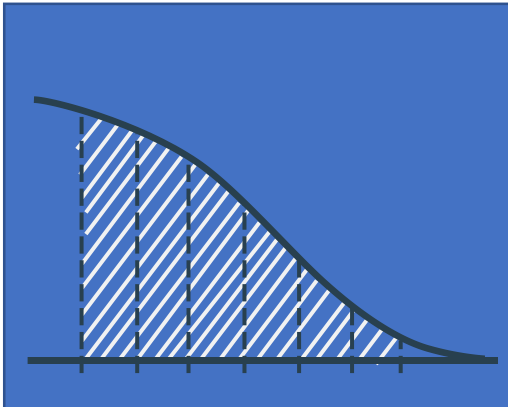


Reserve develops
protocols for the offsets
it issues

FMUs

Forecasted
Mitigation
Units

1 FMU = 1 tCO₂e of
anticipated reductions



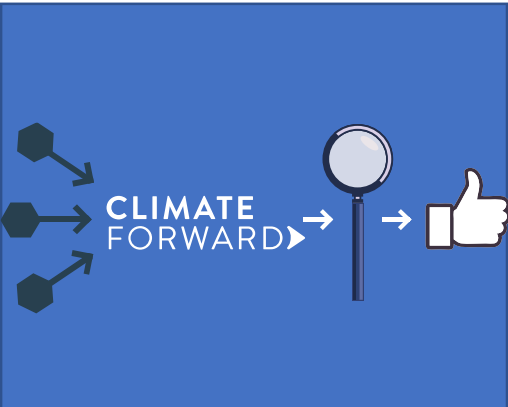
Issued for **forecasted**
GHG reductions



Used to mitigate
anticipated emissions



Projects may be located
anywhere in the world



External parties may submit
forecast methodologies

tCO₂e = tonne of carbon dioxide
equivalent

Why forward crediting?

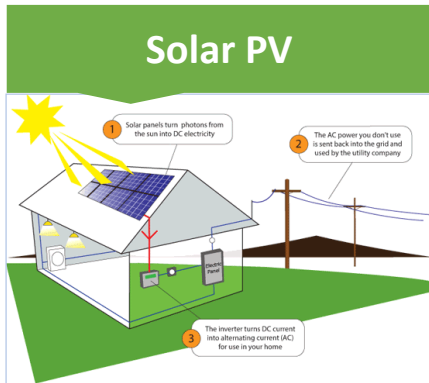
A new paradigm, reducing barriers to entry for innovative, targeted climate solutions that can also achieve sustainability goals beyond climate impacts

- Customized climate projects with specific **co-benefits** tailored to align with organizational goals and values
- **Local** projects in communities directly affected by operations
- New opportunities: demonstrate climate **leadership**

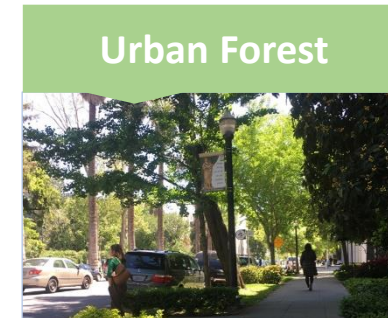
1 FMU = 1 tonne of anticipated CO₂e reduction

CLIMATE FORWARD ►

- One-time credit issuance for reductions estimated over project lifetime
- Volume of credits issued = conservative estimate of expected reductions in the future
- Forward-looking approach aligned with CEQA impact evaluation
- **Nicely suited for local projects: community-based measures**
- **Expands the scope of projects**



© Universal Solar Energy



Companies and organizations mitigating future emissions

Any new investment creating GHGs

- e.g., anticipated emissions identified via CEQA analysis process

Not appropriate for addressing current emissions in a compliance program

- e.g., cap-and-trade

Not appropriate for mitigating historical emissions

- Cannot mitigate past emissions with future actions
-

Examples of future mitigation needs

New manufacturing facility

New data center

New retail complex

New residential/commercial developments

New transportation projects

Process overview: 12-18+ months from methodology submittal to credit issuance

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Project proponent: designs and finances project



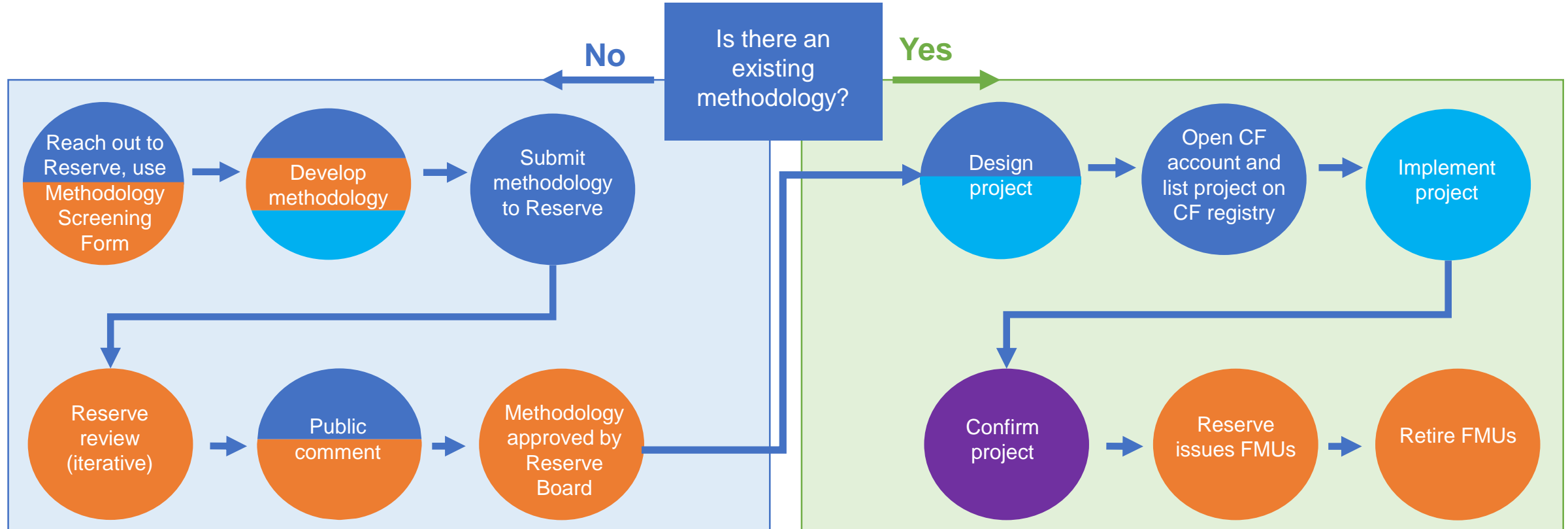
Consultant / project developer: technical project design and implementation



Confirmation Body: 3rd party review and assurance of project success



Climate Action Reserve: credit registry and policy/program framework



Ensuring environmental integrity

CLIMATE FORWARD ►



The Climate Forward methodology criteria specify that the mitigation activity be suitable for ex-ante crediting and not likely for existing GHG mitigation project incentive programs.

- Initial suitability screening
- Conservative quantification accounts for:
 - Performance decline
 - Project abandonment rate
- Conservative crediting period
- Requires Project Resilience Measures
 - E.g., equipment maintenance contract, user instructions and training, conservation easement, etc.

Project Monitoring and Confirmation

CLIMATE FORWARD ►

- **No** ongoing monitoring requirement
 - Voluntary monitoring encouraged = additional FMU credits
- One-time Project Implementation Report
 - Project inputs, project information, and quantification
- One-time project Confirmation
 - Set to ensure project is fully operational but still early in the life of a project
 - Will vary by project type; about one year after project commencement
- Confirmation Bodies: ISO14065 accredited VVBs + additional Reserve requirements
- Confirmation against approved methodology and program rules



Why FMUs qualify under CEQA

- CEQA requires project proponents to assess environmental concerns and focus on **project-level analysis and mitigation** – CARB
 - Statewide programs like Cap-and-Trade are not intended to **mitigate project-level emissions**¹
- FMUs have already been accepted by LA County Dept of Regional Planning as an appropriate mitigation measure²
 - Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan
- The program quantifies GHG benefits of offsite projects:
 - ✓ in the neighborhood
 - ✓ in the region
 - ✓ in the state
 - ✓ out of state
 - ✓ around the world

*“Where further project design or regional investments are infeasible or not proven to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits....It may also be appropriate **to utilize credits issued by a recognized and reputable voluntary carbon registry.**”*

1. CARB Moreno Valley brief re: World Logistics Center Revised FEIR
2. Newhall Ranch Project Final AEA Appendix 2:
<https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=NewhallRanchFinalAEA>

Inaugural Climate Forward Activities

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- Started officially in late 2018
- Began with a diverse batch of project ideas from Newhall Ranch
 - Cook Stoves
 - Solar PV
 - Dairy Digester
 - Forestry
 - Pool Covers
- Informed design of critical program elements
- Three methodologies were sent out for public comment and are approved for use

Obtaining FMUs

Option 1: Develop Project & Retire FMUs

Developing projects require upfront capital;
variable by project type

May develop new methodology, submit new project
parameters, or use existing approved
methodologies

Tailor project types

Unlimited location options

Customize co-benefits

12-18 months from ideation to full credit issuance

Optional MRV for additional credits

Option 2: Over-the-counter FMU Purchase

Select from existing pool of credits

Currently limited credit supply

Faster procurement process than Option 1

Tailor project types

*More project type options compared with offset
projects*

Customize co-benefits

Multiple contract and credit delivery options

- FMU registry: listing of projects
- Offsets Marketplace: project developers, credit sourcing and transaction firms
- Climate Forward Hub: coming soon

How to take Climate Forward action

CLIMATE FORWARD ►

- **As a permitting agency:**
 - Require ambitious GHG mitigation for projects
 - Recommend using Climate Forward for local offsite mitigation projects
- **As a CEQA project proponent:**
 - Commit to a net zero development
 - Contact the Reserve to discuss how Climate Forward can help achieve your goals
- **As a CEQA practitioner/consultant:**
 - Recommend Climate Forward for offsite local reduction projects
- **Develop and submit** innovative methodologies
- **Contact the Reserve** to explore and be connected with project resources
- **Sign up for our newsletter** at <https://climateforward.org/sign-up/>

Thanks! Questions?

CLIMATE FORWARD ►

Contact us: info@climateforward.org

Craig Ebert, President

(213) 213-1239

cebert@climateactionreserve.org

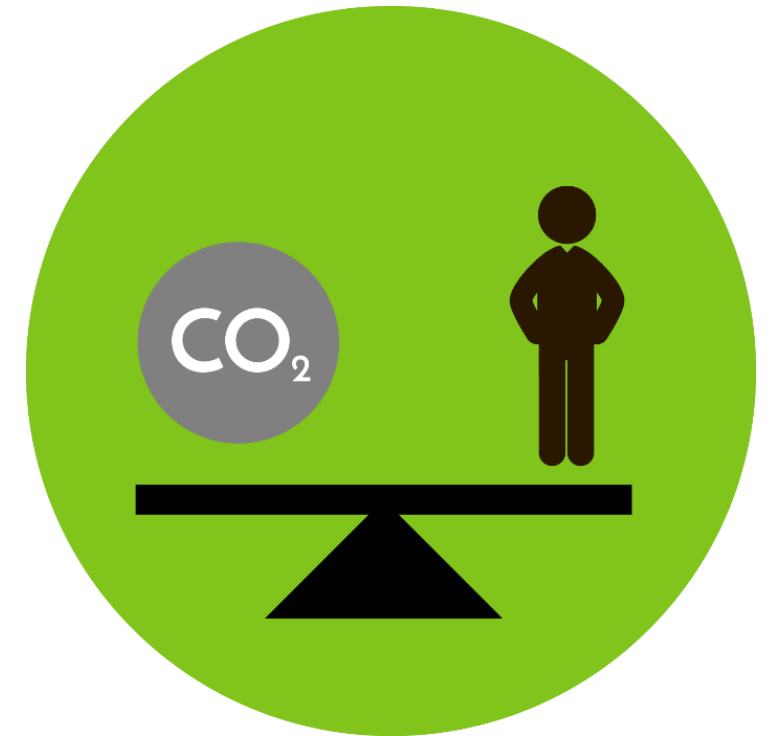
Additional Slides



Using GHG Credits as CEQA Mitigation

■ When can credits be used as CEQA mitigation?

1. Demonstrate consistency with 2017 Scoping Plan, Air Quality Plan, Sustainable Community Strategy, and local plans (e.g. Climate Action Plan)
2. Analyze project alternatives to reduce GHG emissions
3. Consider all feasible project design features, such as energy efficiency, electrification, renewable energy use, and transportation demand management
4. Consider all feasible on-site mitigation measures, such as solar PV installation, EV charging infrastructure, and use of alternative fuels
5. THEN consider the use of credits:
 - a) Consider opportunities to reduce emissions in the local community: e.g. local or regional investment in building retrofits, EV charging, solar PV, etc.
 - b) If not local, consider credits located as close to the project site as feasible, and within California if possible.
 - c) Credits should be created and confirmed or verified through rigorous protocols.



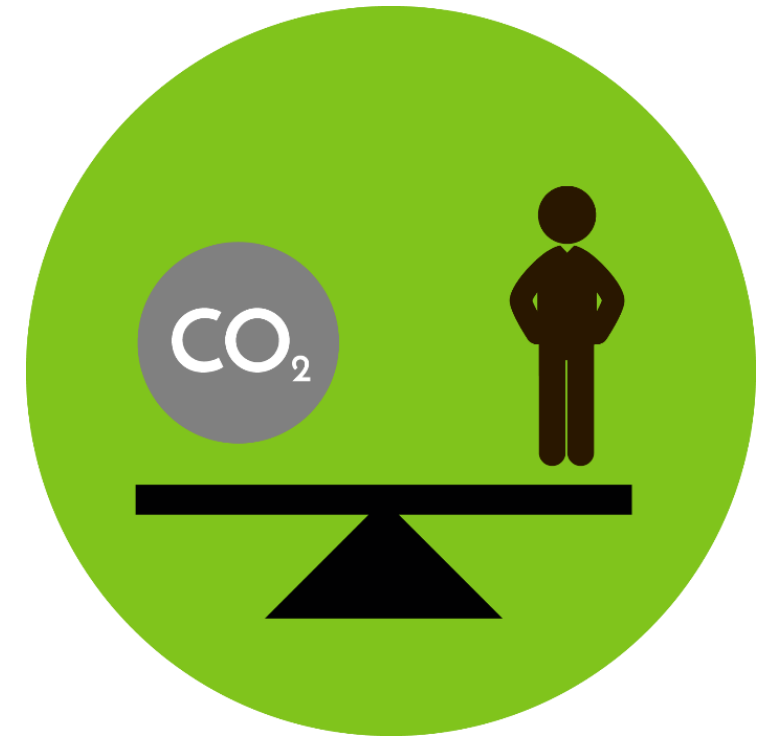
Using GHG Credits as CEQA Mitigation

■ Ex Poste

- Reductions have already occurred and verified by a third-party auditor
- Project is implemented (like landfill gas control)
- Must be additional and not required by regulation – voluntary action
- Set designated reporting period, such as Jan-Dec 2018
- Verified in 2019 for “past” reductions in 2018
- Done annually every year
- Credits can then be retired to offset a project’s emissions in the future.

■ Ex Ante / FMU

- Reductions will occur in the future and have not yet been confirmed
- Project forecasts forward annual reductions over lifetime of project (e.g. 20 years) and issues credits for these reductions
- These forward-looking credits can then be used to mitigate the GHG emissions impact of future projects for entire lifetime of the project
- Typically for smaller projects that can’t justify the annual verification procedure of Ex Poste credits (like urban forestry)



Using GHG Credits as CEQA Mitigation

■ Should I use Ex Post or Ex Ante credits?

- You can use both; it is mostly a question of risk and political acceptability
- Cost and availability are other considerations
- Ex Poste credits:
 - must be purchased annually, year after year, based on verification of past project reductions achieved
 - guaranteed because they have already occurred – lower risk
- Ex Ante credits:
 - can be purchased ahead of time for the lifetime of a Project's GHG reduction requirements under CEQA
 - carry additional risk in the event of project bankruptcy, shutdown, or other unforeseen barriers.
 - There are programs out there that try to mitigate this risk, such as the Climate Forward Program provided by the Climate Action Reserve

