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**Association of
Environmental
Professionals**

How to Source GHG Credits as an Offsite Mitigation Measure under CEQA

September 23, 2020

Speakers



Association of
Environmental
Professionals

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Element Markets

CEQA Offsets Overview

September 2020

About Element Markets

Element is the leading independent marketer of environmental commodities in the U.S., helping clients meet compliance mandates and voluntary targets in a world shifting to renewable and low carbon resources.

Element Markets Company Overview & Highlights

- Headquartered in Houston, Texas
- Wholesale provider of carbon credits with over 40 million tonnes transacted on behalf of clients
- Experienced offset provider for greenhouse gas mitigation under CEQA assisting consultants and developers with offset transactions since 2010
- Transacted over \$3 billion in environmental commodities since inception
- Extensive expertise in GHG mitigation and carbon neutral initiatives
- Customer base of over 800 companies within environmental markets
- Major provider and marketer of carbon credits and RNG for developers, GHG consultants, Fortune 100 companies, universities, and municipalities

Company Awards & Accolades

- *Energy Risk Magazine* (2020, 2018, 2014, 2010) – Emissions House of the Year
- *Energy Risk Magazine* (2019) – Environmental Products House of the Year
- *Environmental Finance Magazine* (2019, 2018, 2017) – Best Trading Company (RINs)
- *Environmental Finance Magazine* (2017, 2016, 2015, 2014) – Best Advisory/Consultancy

Agenda

- Carbon offsets overview
- Current market trends
- CEQA offset transaction process

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.

Carbon Offsets Overview

1 GHG Credit = 1 MT of CO₂e



Agricultural
Projects



Landfill
Gas Capture
Projects



Reforestation
and Avoided
Deforestation



Renewable
Energy
Projects



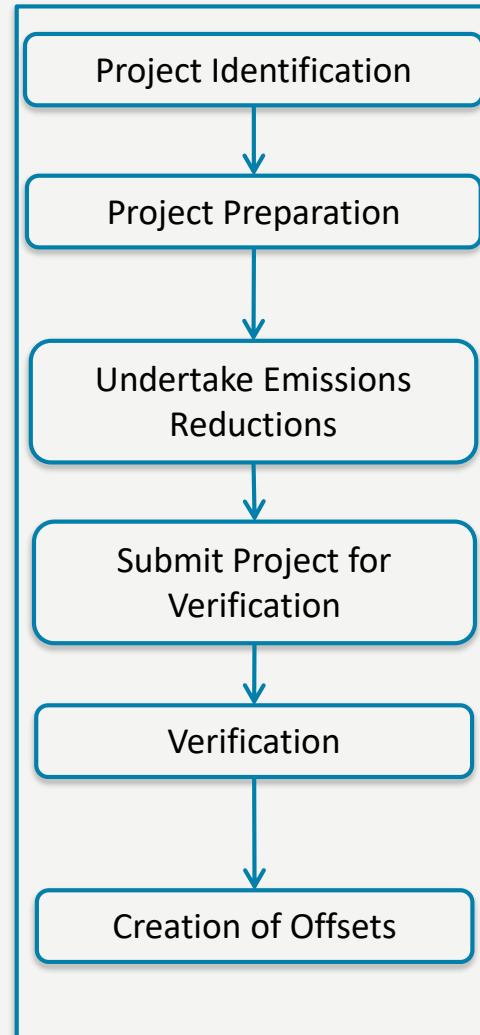
Industrial
Projects

Carbon offsets represent 1 tonne of carbon reduction equivalent emission reductions and can be derived from various project types (e.g. agricultural manure, forestry, landfill gas)

All carbon offsets have the following characteristics: **Permanent, Additional, Verifiable, Enforceable, and Real.**

Carbon Offset Generation

Process for Generating Offsets



The three CARB approved carbon registries are American Carbon Registry (ACR), Climate Action Reserve (CAR), and Verra (formerly VCS). These registries maintain the protocols for offset generation and govern the generation and retirement of offsets to ensure integrity in the system.



Carbon Offsets: Locational Preference Under CEQA

Tiered preference for off-site mitigation closest to project location (included in some Environmental Impact Reports):

1. Within the local community or county
2. Within the State of California
3. Within the United States
4. Internationally

Due to stringent state regulations and climate conditions, the supply of in-state offsets is limited, and the majority of in-state projects deliver to California's AB 32 cap-and-trade program or the Low Carbon Fuel Standard (LCFS).

Carbon Market Supply & Demand (In-State and U.S.)

Demand

Current CEQA market demand:

- **20+ million MT CO₂e in coming years.**
 - Based on analysis of CEQA documentation and pending projects
 - Several large projects pending
 - GHG credit use for CEQA under review (e.g. Golden Door Court Case)

Supply

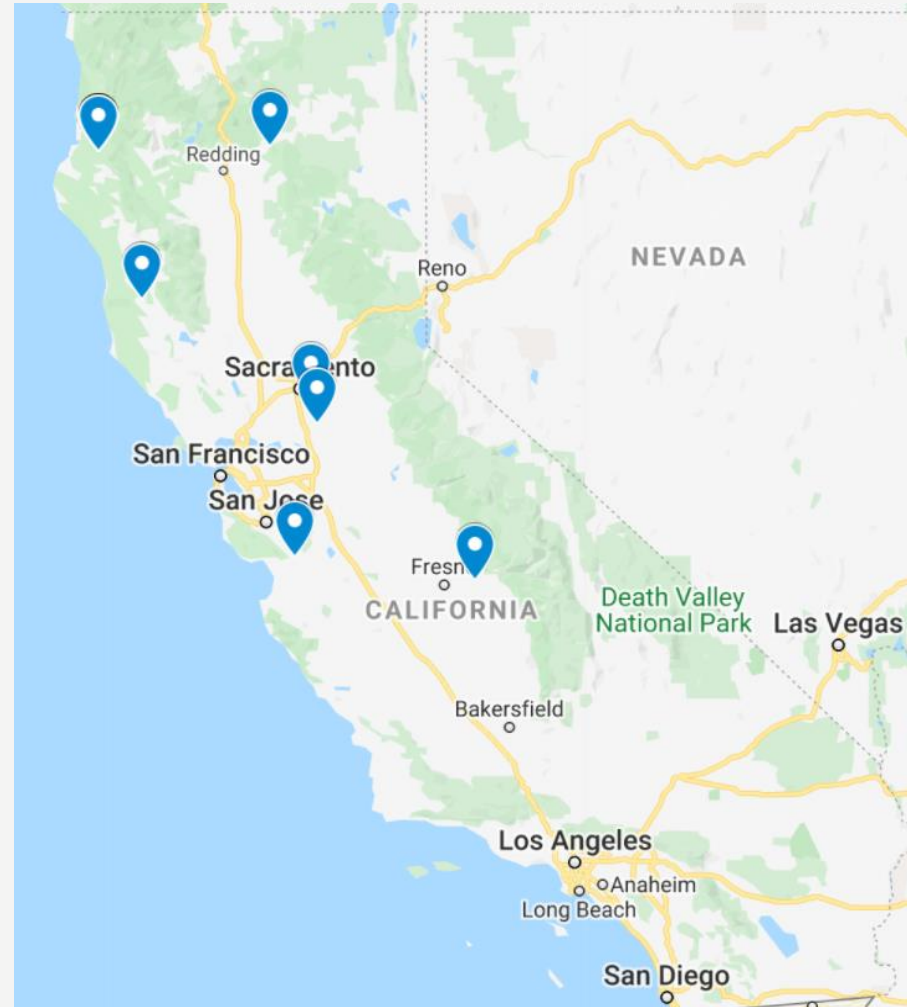
Analysis of the three CARB-approved registries shows very limited supply of in-state CA voluntary GHG credits

- Most offsets in CA are registered under AB32 Cap and Trade Program
- CA is a highly regulated state for GHGs rendering many GHG Credit Projects ineligible
- Supply of in-state voluntary GHG credits are primarily forestry offsets not registered under the Cap and Trade Program

Element Markets estimates total US voluntary market in 2019 at 15 million MT CO₂e transacted or retired.

Market Driver: Geographic Location of Project

Locational hierarchy of offsets must be considered























Map displaying voluntary offset projects available in CA

- Example: Newhall Ranch Mitigation Plan
- While CA offsets are preferred, availability of CA offsets does not exist to cover entirety of CEQA demand

CEQA Offset Transaction Example

When an offset is “used” to mitigate emissions under CEQA, the offset is retired publicly on the registry.

Vintage  	Offset Credit Serial Numbers  	Quantity of Offset Credits  	Status Effective  	Project ID  	Project Name  	Project Type  	Account Holder  	Retirement Reason  	Retirement Reason Details  
2007	CAR-1-US-396-5-169-ID-2007-204-201 to 11200	11,000	09/11/2017	CAR396	Intrepid Technology Resources, Inc. Anaerobic Digester at the Whitesides Dairy Farm	Livestock Gas Capture/Combustion	The Newhall Land and Farming Company, LLC	Compliance Requirements	CEQA Mit Measure 4.23-10

An email is also generated to acknowledge the retirement—this information may be provided to the CEQA lead agency as supporting documentation of Net Zero Initiatives.

From: Reserve@climatereserve.org
To: Tiffany_Grigsby
Subject: Climate Action Reserve: Notification of Climate Reserve Tonnes (CRT) Retirement
Date: Tuesday, February 01, 2011 8:46:55 AM

This email is to acknowledge that on 2/1/2011 2:47:24 PM, NEML1, LLC retired 81693 Climate Action Reserve Climate Reserve Tonnes (CRTs). The CRTs were issued by the Climate Action Reserve following a rigorous carbon offset project registration and verification process used to ensure the originating offset project contributes to real and additional emission reductions. The issuance and ownership of these Climate Action Reserve CRTs have been tracked in the Climate Action Reserve using unique serial numbers to prevent double counting or double selling. Now that these CRTs have been retired from the registry **permanently**, no one else can hold or retire the CRTs. Details about the CRTs are listed below.

Quantity of retired CRTs: 81693
CRT serial numbers: CAR-1-US-639-30-449-TX-2010-391-2 to 81694
Date of retirement: 2/1/2011 2:47:24 PM
CRT retirement reason details: On Behalf of Third Party;

← The following information was used in support of Molycorp’s GHG mitigation under CEQA. Element Markets provided this documentation alongside project verification reports to the Lead Agency.

Thank You

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“Emissions House of the Year”, 2020, 2018, 2014 and 2010 by Energy Risk

“Environmental Products House of the Year”, 2019 by Energy Risk

Energy Risk Environmental Rankings

- #1 U.S. Regional Greenhouse Gas Dealer
- #1 U.S. Voluntary GHG Credit Dealer
- #2 Renewable Energy Credit Dealer
 - #1 NO_x & SO₂ Dealer

Environmental Finance Magazine

- Best Trading Company in North American Renewable Energy
- Runner- Up, Best Trading Company of North American GHG Markets (California)
 - Best Trading NO_x & SO₂ Company Emission Credits

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Rob Z. Lee | September 2020

GHG Credit Registry

- 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* are 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 Forward:

A mission driven program

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- Accelerate greenhouse gas mitigation project development
- Enable project types that have not been feasible under offset financing



Climate Forward:

a carbon project registry

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Issues Forecasted Mitigation Units (FMUs) to projects that follow Reserve-approved methodologies

- Follows ISO 14064-2 and GHG Protocol for Project Accounting Standards
- Credits issued about one year after project commencement, for the forecasted climate benefit over the project's lifetime



Expands the scope and scale of carbon project types

- Enormous potential for diverse, creative climate solutions



Tracks FMUs ownership and project activities in a publicly accessible database

- A registry of forward-looking GHG reductions to balance against forward-looking GHG impacts
-

Program History

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Pilot Phase

- Started in early 2017
- Began with a diverse batch of project ideas
 - Cook Stoves
 - Solar PV
 - Dairy Digester
 - Forestry
 - Pool Covers
- Informed design of critical program elements

Today

- 10 participating companies
- 6 projects registered
- 500,000+ FMUs issued
- More than 500 stakeholders consulted
 - Program, policy, and public comment webinars
 - Direct outreach

A new carbon credit product: Forecasted Mitigation Units®

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- 1 FMU = 1 MTCO₂e of anticipated GHG reductions
 - One-time credit issuance
 - Conservative crediting
- Shifts project economics
 - Creates carbon asset early in project life
 - Optional MRV = lowers project management costs
- Nicely suited for local projects: community-based measures
 - Opens up crediting for activities in new sectors, i.e. energy

Approved Methodologies

Reforestation



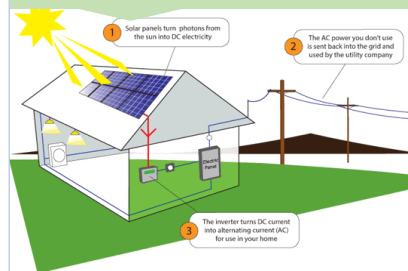
Management of Mature Forests



Improved Cookstove



Solar PV



© Universal Solar Energy

Dairy Digester



Pool Cover Installation



Principles

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 confirmation occurs prior to credit issuance	No other parties may reasonably claim ownership of reductions

Ensuring environmental integrity

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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.

Process overview

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Project proponent: designs and finances project



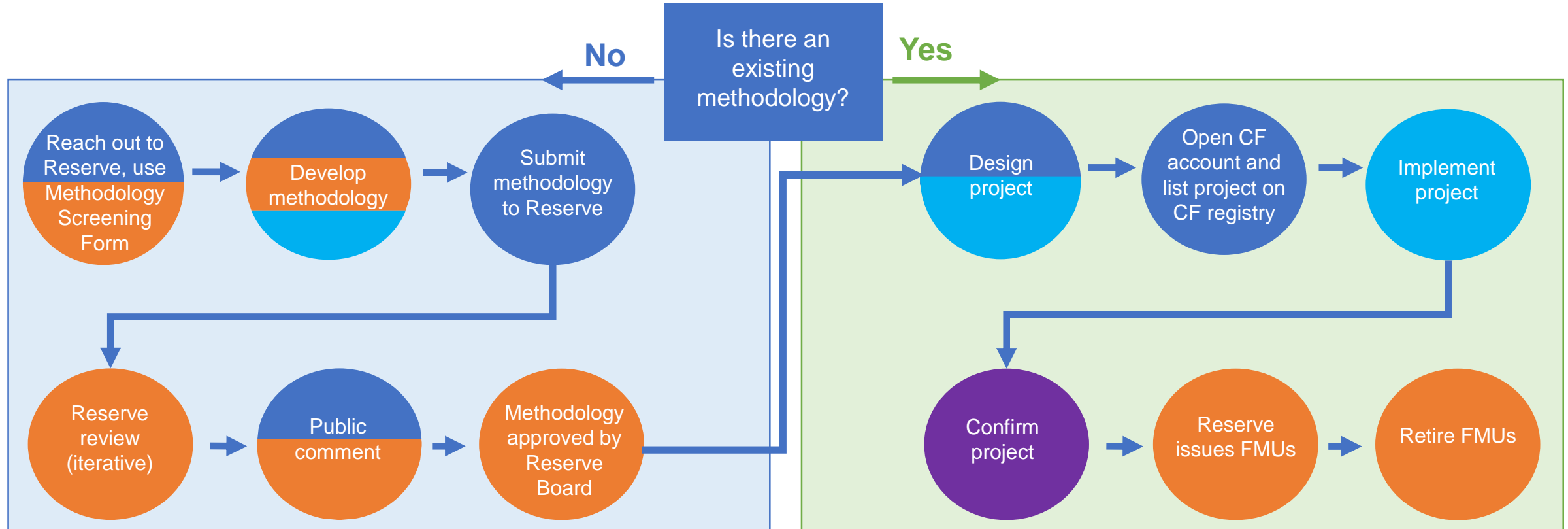
Consultant / project developer: technical project design and implementation



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



Climate Action Reserve: credit registry and policy/program framework



Project monitoring and confirmation

- **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



FMUs qualify under CEQA

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*“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.**”*

California Air Resources Board Scoping Plan 2017

- FMUs have already been accepted by LA County Dept of Regional Planning as an appropriate mitigation measure¹
 - Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan
- FMUs are
 - Real
 - Additional
 - Verifiable by 3rd party
 - Permanent
 - Enforceable
- The program quantifies GHG benefits of offsite projects:
 - ✓ in the neighborhood
 - ✓ in the region
 - ✓ in the state
 - ✓ out of state
 - ✓ around the world

1. Newhall Ranch Project Final AEA Appendix 2:
<https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=NewhallRanchFinalAEA>

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

Thank you!

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Contact us: info@climateforward.org



CEQA Impact Investments

Building Climate Smart Communities



Climate
Resolve

“We connect communities, organizations and policymakers to address a global problem with local action.”



LOCAL DEVELOPER

NET ZERO EMISSIONS

CEQA CHALLENGE

CARB-CERTIFIED PLAN

Climate Resolve
originates and
manages FMU
projects that
benefit
residents of
frontline
communities in
Los Angeles
County.

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We worked with CAR and program partners to develop methodologies for PV solar and commercial pool covers.

“Our mission is
to make
renewable
energy
technology and
job training
accessible to
underserved
communities.”





Commercial pool covers
reduce combustion of
natural gas.

KSI KNORR SYSTEMS, INC.
A **PLAYCORE** Company



2019 Pilot

- Free PV+cool roofs for low-income homeowners
- New pool covers for public aquatics facilities in DACs
- +1000 FMUs confirmed and awarded by CAR

Impact Project Pipeline

- Partnering with LA Dodgers Foundation for +250 kW PV + EV charging in Compton
- +100 kW PV with battery storage for LA Mission food warehouse facility
- Pool covers for rec centers and schools
- PV for rec centers and schools
- Residential/multi-family PV + cool roofs
- Urban reforestation
- Developing new Climate Forward methodologies



FIELD 42

- Designed for Baseball/Softball Ages 5-8
- New Playing Surface
- Fully Enclosed Field
- All New Fencing
- New Backstop and Covered Dugouts
- LED Scoreboard Resembling Dodger Stadium
- Upgraded Irrigation System
- New Bleachers
- New Field Lighting

JACKIE ROBINSON STADIUM

- Designed for Baseball Players Ages 13+
- New Playing Surface
- Enhanced LED Scoreboard
- Dugout Renovations
- Refurbished Bleachers
- Field Lighting Upgrades
- Updated Netting

JACKIE ROBINSON STADIUM

PLAZA

RACHEL ROBINSON FIELD

RACHEL ROBINSON FIELD

- Designed for Baseball 9-12 and Softball 9-18
- New Playing Surface
- Fully Enclosed Field
- All New Fencing
- New Backstop and Covered Dugouts
- Removable Mound for Baseball Divisions
- LED Scoreboard Resembling Dodger Stadium
- Upgraded Irrigation System
- New Bleachers
- New Field Lighting

GONZALES PARK AND POOL

KERSHAW'S CHALLENGE FITNESS AND TRAINING ZONE

- Outdoor Training Area
- Enclosed Batting Cages and Bullpens
- Infield Practice Area
- Outdoor Fitness Equipment

KERSHAW'S CHALLENGE FITNESS AND TRAINING ZONE

BATTING CAGE AND BULLPEN

CLIMATE RESOLVE

CEQA Impact Investment: LADF Dreamfield PV + EV Project



THANK YOU!

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Questions?