EJSCREEN Analysis
Environmental Justice Program
U.S. EPA, Region 9
Performed February 2021 by Alan Bacock

EJSCREEN Summary

Site: Clean Energy Systems

In February 2021, EPA conducted an environmental justice screening level evaluation of Clean Energy Systems with a 2.5 mile radius from the point 36.750851,-120.367756, using EPA's EJSCREEN tool.

EJSCREEN Purpose

The purpose of this Environmental Justice (EJ) screening is to look at potential cumulative environmental burdens and the vulnerability of the community in the vicinity of the facility. EJSCREEN provides demographic and environmental information that is ranked as percentiles as compared to the state, region or nation. EJ Indexes combine demographic information and environmental burden to identify places with high vulnerability and high burden. It is important to note that EJSCREEN does not have all data sets on environmental burdens at a local area and is not all inclusive for unique environmental burdens (see EJSCREEN Limitations).

Proposed Action

This EJSCREEN request was to support the permitting process for a Class VI Injection Well for geological sequestration at its Mendota, CA energy plant. If a permit is issued it would be valid for the project's lifetime.

Community Profile

Buffer: A 2.5 mile buffer was placed around the site as requested by USEPA'S Water Division.
Population Located within Buffer Area: 11,427

The population data shows a comparatively high percentile (98) of minority or low-income individuals for the region and California.

Language Considerations: 55% of the population appears to be part of linguistically isolated communities located within the buffer zone (see linguistically isolated community map). Spanish is the primary language spoken by the linguistically isolated communities.
Educational Considerations: 65% of the population does not have a high school diploma.
Income Considerations: 41% of the population makes less than $25,000 per household.
Employment Considerations: 14% of the population is unemployed. This number may be distorted due to the large number of seasonal jobs due to the agricultural sector which employs many in the area.

Community Environmental Burden

An EJ Index is used within EJSCREEN to summarize how an environmental indicator and demographics come together in the same location. For each environmental factor, the EJ Index finds the block groups that contribute the most toward the nation, region or state-wide disparity in that environmental factor. By "disparity" in this case means the difference between the

environmental indicator's average value among these demographic groups and the average in the US, regional or state population.

According to the EJSCREEN results for the area within the buffer zone, the population has the following EJ indices equal or above the 80th percentile of the region:

PM2.5: 90
Ozone: 93
NATA Air Toxics Cancer Risk: 88
NATA Respiratory Hazard Index: 89
RMP Proximity: 93

Summary of EJSCREEN Results

The community profile demographics suggests that this community has a high level potential for vulnerability to environmental pollution due to high percentages of minority and low income populations. In addition, the EJ index showed a high potential for environmental burden by identifying 5 environmental indicators above the 80th percentile for the regional population.

The combination of vulnerability and burden factors demonstrates that this location requires additional considerations to facilitate fair treatment and meaningful involvement.

Recommendations

- Provide engagement plans to the Environmental Justice Coordinators for further support.
- Any activity conducted needs to have Spanish translation.
- Any written outreach materials should use short, clear sentences in everyday language. Materials should be organized to share impacts from the proposed project up front prior to providing context and technical terms should be avoided.
- Internet access and phone access may be limited due to income challenges so it is recommended that information be shared through additional means including community events, public facilities [libraries, community centers, etc.] free publications [community newspapers] and media [ie. radio stations, television]
- Consider partnering with a church, community group and/or the city of Mendota to share information or gather comments.

EJSCREEN Limitations

EJSCREEN was designed to be a nationally consistent screening tool and contains 12 environmental factors with results calculated and displayed at the Census block group level. EJSCREEN may not provide a complete understanding of environmental burden within communities creating a need for local information to be considered alongside an EJSCREEN analysis.

Local information that may be helpful include: health data, drinking water quality, surface water quality, contaminated aquatic life, water body closures, indoor air pollutants, air quality, oil and gas extraction, mining, coal ash ponds, combined animal feeding operations, leaking UST sites, pesticide exposure, noise pollution, occupational exposure, etc.

EJSCREEN Report (Version 2020)

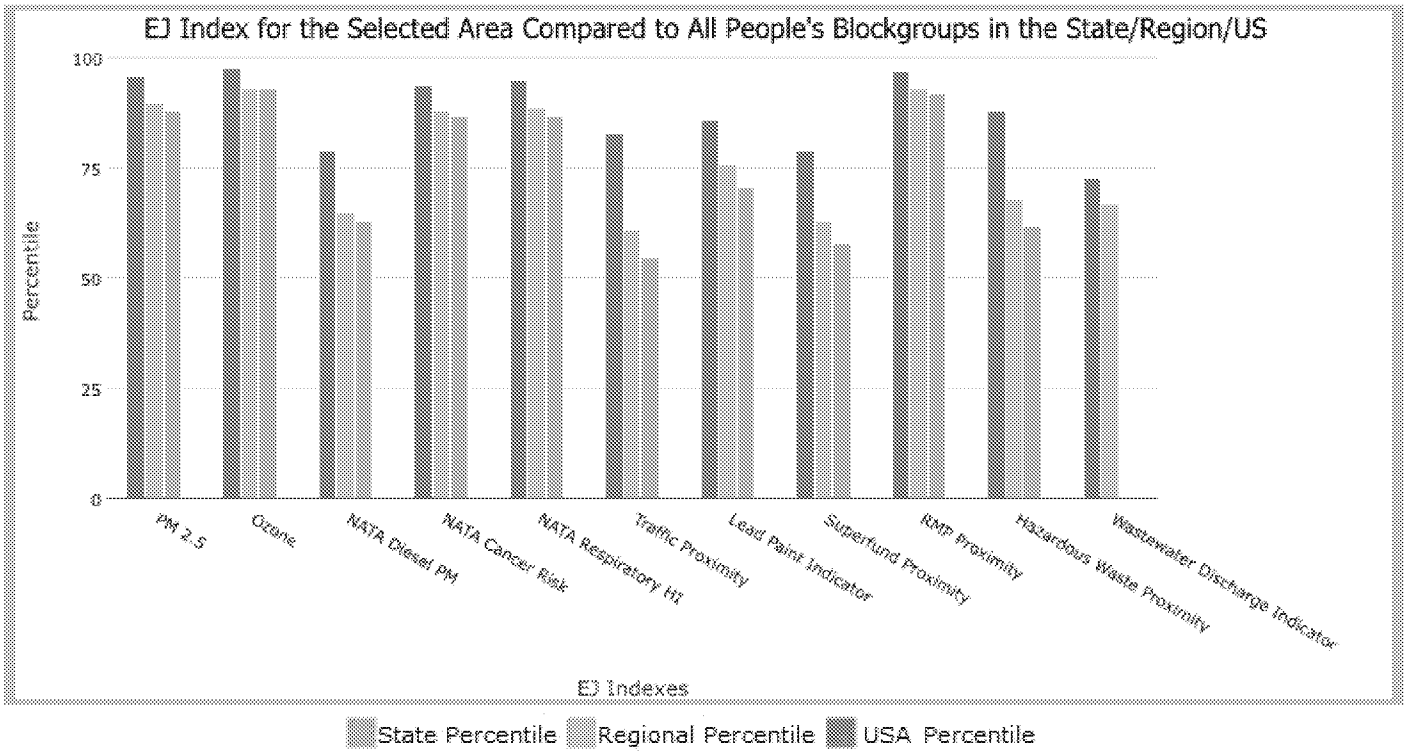
2.5 miles Ring Centered at 36.750851,-120.367756, CALIFORNIA, EPA Region 9

Approximate Population: 11,427

Input Area (sq. miles): 19.63

Clean Energy Systems - Class VI Injection Well

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	88	90	96
EJ Index for Ozone	93	93	98
EJ Index for NATA* Diesel PM	63	65	79
EJ Index for NATA* Air Toxics Cancer Risk	87	88	94
EJ Index for NATA* Respiratory Hazard Index	87	89	95
EJ Index for Traffic Proximity and Volume	55	61	83
EJ Index for Lead Paint Indicator	71	76	86
EJ Index for Superfund Proximity	58	63	79
EJ Index for RMP Proximity	92	93	97
EJ Index for Hazardous Waste Proximity	62	68	88
EJ Index for Wastewater Discharge Indicator	N/A	67	73



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

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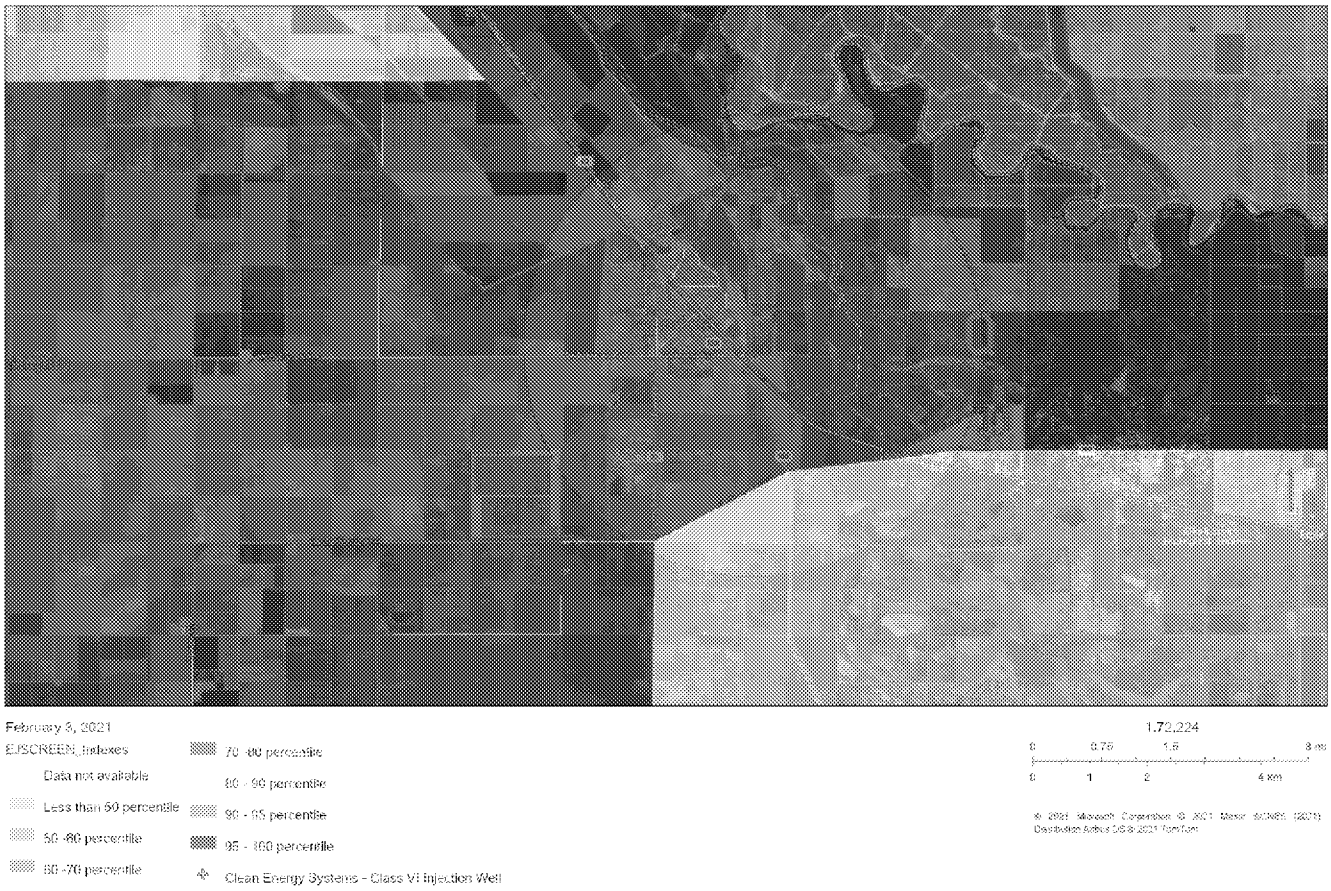
Clean Energy Systems - Class VI Injection Well



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	1

EJSCREEN Report (Version 2020)

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Clean Energy Systems - Class VI Injection Well

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in µg/m^3)	9.31	10.6	24	9.99	39	8.55	75
Ozone (ppb)	53.7	49.2	65	50.1	61	42.9	92
NATA* Diesel PM (µg/m^3)	0.151	0.467	8	0.479	<50th	0.478	<50th
NATA* Cancer Risk (lifetime risk per million)	30	36	25	35	<50th	32	<50th
NATA* Respiratory Hazard Index	0.47	0.55	31	0.53	<50th	0.44	60-70th
Traffic Proximity and Volume (daily traffic count/distance to road)	210	2000	20	1700	26	750	49
Lead Paint Indicator (% Pre-1960 Housing)	0.12	0.29	41	0.24	50	0.28	42
Superfund Proximity (site count/km distance)	0.022	0.17	10	0.15	15	0.13	19
RMP Proximity (facility count/km distance)	1.9	1.1	83	0.99	85	0.74	90
Hazardous Waste Proximity (facility count/km distance)	1.6	6.2	22	5.3	28	5	60
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0	18	N/A	18	52	9.4	33
Demographic Indicators							
Demographic Index	87%	47%	98	46%	98	36%	98
People of Color Population	98%	62%	93	60%	94	39%	96
Low Income Population	77%	33%	96	33%	96	33%	97
Linguistically Isolated Population	55%	9%	99	8%	99	4%	99
Population With Less Than High School Education	65%	17%	99	16%	99	13%	99
Population Under 5 years of age	11%	6%	90	6%	90	6%	91
Population over 64 years of age	6%	14%	13	14%	13	15%	10

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: https://www.epa.gov/national-air-toxics-assessment.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

EJSCREEN ACS Summary Report

Location: User-specified point center at 36.750851, -120.367756
Ring (buffer): 2.5-miles radius
Description: Clean Energy Systems - Class VI Injection Well

Summary of ACS Estimates	2014 - 2018
Population	11,427
Population Density (per sq. mile)	534
People of Color Population	11,147
% People of Color Population	98%
Households	2,745
Housing Units	2,843
Housing Units Built Before 1950	184
Per Capita Income	12,800
Land Area (sq. miles) (Source: SF1)	21.41
% Land Area	99%
Water Area (sq. miles) (Source: SF1)	0.30
% Water Area	1%

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	11,427	100%	714
Population Reporting One Race	11,209	98%	1,533
White	5,762	50%	730
Black	43	0%	130
American Indian	22	0%	42
Asian	1	0%	36
Pacific Islander	0	0%	12
Some Other Race	5,382	47%	583
Population Reporting Two or More Races	217	2%	188
Total Hispanic Population	11,117	97%	715
Total Non-Hispanic Population	310		
White Alone	280	2%	348
Black Alone	7	0%	130
American Indian Alone	0	0%	12
Non-Hispanic Asian Alone	1	0%	36
Pacific Islander Alone	0	0%	12
Other Race Alone	0	0%	12
Two or More Races Alone	22	0%	31
Population by Sex			
Male	5,662	50%	490
Female	5,765	50%	350
Population by Age			
Age 0-4	1,296	11%	166
Age 0-17	4,205	37%	288
Age 18+	7,222	63%	284
Age 65+	644	6%	80

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2014 - 2018 .

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Description: Clean Energy Systems - Class VI Injection Well

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population 25+ by Educational Attainment			
Total	6,141	100%	335
Less than 9th Grade	3,319	54%	222
9th - 12th Grade, No Diploma	656	11%	115
High School Graduate	1,497	24%	185
Some College, No Degree	553	9%	107
Associate Degree	89	1%	70
Bachelor's Degree or more	116	2%	61
Population Age 5+ Years by Ability to Speak English			
Total	10,131	100%	606
Speak only English	1,205	12%	251
Non-English at Home[1+2+3+4]	8,926	88%	487
[1]Speak English "very well"	1,957	19%	343
[2]Speak English "well"	2,047	20%	219
[3]Speak English "not well"	1,682	17%	271
[4]Speak English "not at all"	3,240	32%	292
[3+4]Speak English "less than well"	4,922	49%	317
[2+3+4]Speak English "less than very well"	6,968	69%	375
Linguistically Isolated Households*			
Total	1,495	100%	108
Speak Spanish	1,468	98%	107
Speak Other Indo-European Languages	0	0%	12
Speak Asian-Pacific Island Languages	0	0%	12
Speak Other Languages	27	2%	37
Households by Household Income			
Household Income Base	2,745	100%	126
< $15,000	481	18%	72
$15,000 - $25,000	620	23%	101
$25,000 - $50,000	999	36%	99
$50,000 - $75,000	424	15%	68
$75,000 +	220	8%	74
Occupied Housing Units by Tenure			
Total	2,745	100%	126
Owner Occupied	971	35%	103
Renter Occupied	1,774	65%	123
Employed Population Age 16+ Years			
Total	7,530	100%	418
In Labor Force	4,993	66%	291
Civilian Unemployed in Labor Force	1,051	14%	169
Not In Labor Force	2,538	34%	226

Data Note: Detail may not sum to totals due to rounding. Hispanic population can be of any race.
N/A means not available. **Source:** U.S. Census Bureau, American Community Survey (ACS)
*Households in which no one 14 and over speaks English "very well" or speaks English only.

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Description: Clean Energy Systems - Class VI Injection Well

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population by Language Spoken at Home*			
Total (persons age 5 and above)	5,603	100%	416
English	824	15%	368
Spanish	4,612	82%	509
French	0	0%	33
French Creole	N/A	N/A	N/A
Italian	N/A	N/A	N/A
Portuguese	N/A	N/A	N/A
German	6	0%	24
Yiddish	N/A	N/A	N/A
Other West Germanic	N/A	N/A	N/A
Scandinavian	N/A	N/A	N/A
Greek	N/A	N/A	N/A
Russian	N/A	N/A	N/A
Polish	N/A	N/A	N/A
Serbo-Croatian	N/A	N/A	N/A
Other Slavic	N/A	N/A	N/A
Armenian	N/A	N/A	N/A
Persian	N/A	N/A	N/A
Gujarathi	N/A	N/A	N/A
Hindi	N/A	N/A	N/A
Urdu	N/A	N/A	N/A
Other Indic	N/A	N/A	N/A
Other Indo-European	11	0%	33
Chinese	0	0%	17
Japanese	N/A	N/A	N/A
Korean	0	0%	17
Mon-Khmer, Cambodian	N/A	N/A	N/A
Hmong	N/A	N/A	N/A
Thai	N/A	N/A	N/A
Laotian	N/A	N/A	N/A
Vietnamese	0	0%	17
Other Asian	7	0%	29
Tagalog	0	0%	17
Other Pacific Island	N/A	N/A	N/A
Navajo	N/A	N/A	N/A
Other Native American	N/A	N/A	N/A
Hungarian	N/A	N/A	N/A
Arabic	143	3%	348
Hebrew	N/A	N/A	N/A
African	N/A	N/A	N/A
Other and non-specified	0	0%	17
Total Non-English	4,779	85%	504

Data Note: Detail may not sum to totals due to rounding. Hispanic popultion can be of any race.
N/A meansnot available. **Source:** U.S. Census Bureau, American Community Survey (ACS) 2014 - 2018.
*Population by Language Spoken at Home is available at the census tract summary level and up.

Linguistic Isolation

2/3/2021

EJSCREEN_Indexes

- Data not available
- Less than 50 percentile
- 50 -60 percentile
- 60 -70 percentile
- 70 -80 percentile
- 80 - 90 percentile
- 90 - 95 percentile
- 95 - 100 percentile

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

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Water Features

2/3/2021

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

Impaired Streams

Impaired Waterbodies

Streams

Water Bodies

Sole Source Aquifers

Clean Energy Systems - Class VI Injection Well

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