Appendix D

Energy Calculations

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SCEA
Appendix D
Energy Analysis Spreadsheets

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Summary of Energy Use During Construction

Electricty		
Water Consumption	1,760	kWh
Temporary Power (lighting, tools)	15,372	kWh
Total:	**17,132**	kWh
Gasoline		
On Road	20,145	Gallons
Off Road	0	Gallons
Total:	**20,145**	Gallons
Diesel		
On Road	101,923	Gallons
Off Road	68,930	Gallons
Total:	**170,853**	Gallons
Total Mobile	**190,998**	

Summary of Energy Use During Operations

		Baseline (Buildout)	Buildout	Project (Buildout - Baseline)	Units
Electricity					
Electricity (building)		301,373	4,126,145	3,824,772	kWh/year
Electricity (water)		28,725	196,664	167,940	kWh/year
EV Charging		0	118,471	118,471	kWh/year
	Electricity Total	**330,098**	**4,441,281**	**4,111,183**	**kWh/year**
Natural Gas		**856,621**	**718,714**	-137,907	**cu ft/year**
Mobile					
Gasoline		70,546	320,558	250,012	Gallons/year
Diesel		12,270	55,753	43,483	Gallons/year
	Mobile Total	**82,816**	**376,311**	293,495	**Gallons/year**

Construction Electricity Usage

Caterpillar 40-C4.4 Generator[a]

Peak Power Rating - Prime (kW)	36
Typical Load	70%
Average Output (kW)	25.2
Hours per Day	2
Average Daily Output (kWh)	50.4
Building Construction Phase Duration (days)	305
Total Construction (kWh)	15,372
Total Construction (MWh)	15.4

[a]https://www.albancat.com/content/uploads/2014/06/40-C4.4-Spec-Sheet.pdf

Calculation of Diesel Usage During Cosnstruciton (Offroad Equipment):

Phase Name	Off Road Equipment Type	Units	Hours	HP	Load Factor	Avg. Daily Factor	Number of Days	Diesel Fuel Usage	
Demolition	Other Construction Equipment	2	8	82	0.42	0.6	20	331	
Demolition	Excavators	1	8	158	0.38	0.6	20	288	
Demolition	Rubber Tired Loaders	1	8	150	0.36	0.6	20	259	
Grading	Bore/Drill Rigs	2	8	83	0.5	0.6	65	1,295	
Grading	Cement and Mortar Mixers	2	8	10	0.56	0.6	65	175	
Grading	Cranes	2	8	367	0.29	0.6	65	3,321	
Grading	Excavators	2	8	158	0.38	0.6	65	1,873	
Grading	Generator Sets	1	8	14	0.74	0.6	65	162	
Grading	Graders	1	8	148	0.41	0.6	65	947	
Grading	Other Construction Equipment	1	8	82	0.42	0.6	65	537	
Grading	Pumps	1	8	11	0.74	0.6	65	127	
Grading	Rough Terrain Forklifts	1	8	96	0.4	0.6	65	599	
Grading	Rubber Tired Loaders	1	8	150	0.36	0.6	65	842	
Grading	Tractors/Loaders/Backhoes	2	8	84	0.37	0.6	65	970	
Building Foundation	Air Compressors	1	8	37	0.48	0.6	174	742	
Building Foundation	Cement and Mortar Mixers	2	8	10	0.56	0.6	174	468	
Building Foundation	Cranes	2	8	367	0.29	0.6	174	8,889	
Building Foundation	Excavators	2	8	158	0.38	0.6	174	5,015	
Building Foundation	Forklifts	2	8	82	0.2	0.6	174	1,370	
Building Foundation	Pumps	2	8	11	0.74	0.6	174	680	
Building Foundation	Rough Terrain Forklifts	2	8	96	0.4	0.6	174	3,207	
Building Foundation	Signal Boards	2	8	6	0.82	0.6	174	411	
Building Foundation	Tractors/Loaders/Backhoes	2	8	84	0.37	0.6	174	2,596	
Building Foundation	Trenchers	1	8	40	0.5	0.6	174	835	
Building Construction	Aerial Lifts	2	8	46	0.31	0.6	305	2,088	
Building Construction	Cranes	2	8	367	0.29	0.6	305	15,581	
Building Construction	Forklifts	4	8	82	0.2	0.6	305	4,802	
Building Construction	Pumps	1	8	11	0.74	0.6	305	596	
Building Construction	Signal Boards	2	8	6	0.82	0.6	305	720	
Building Construction	Tractors/Loaders/Backhoes	2	8	84	0.37	0.6	305	4,550	
Building Construction	Welders	2	8	46	0.45	0.6	305	3,030	
Paving	Cranes	1	8	367	0.29	0.6	21	536	
Paving	Pumps	4	8	11	0.74	0.6	21	164	
Paving	Signal Boards	2	8	6	0.82	0.6	21	50	
Paving	Surfacing Equipment	1	8	399	0.3	0.6	21	603	
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	0.6	21	157	
						Total Diesel Usage for Construction (Offr		**68,930.0**	**gallons of diesel fuel**

gallons of diesel fuel per horsepower-hour=	0.05

Notes: Equipment assumptions are provide in the CalEEMod output files and fuel usage estimate of 0.05 gallons of diesel fuel per horsepower-hour is from the SCAQMD CEQA Air Quality Handbook, Table A9-3E.

EMFAC2021 Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	Veh_Class	Fuel	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)	Miles per Gallon
South Coast	LDA	Gasoline	Aggregate	3,294,447	129,517,422	15,284,837	4,349	0	29.8
South Coast	LDT1	Gasoline	Aggregate	309,047	11,251,578	1,361,992	452	0	24.9
South Coast	LDT2	Gasoline	Aggregate	1,657,464	68,121,910	7,802,414	2,800	0	24.3
							Construction Worker Trip (Composite LDA/LDT1/LDT2):		**27.2**
South Coast	HHDT	Diesel	Aggregate	56,774	7,075,238	888,983	0	1137.4	**6.2**

Notes: Consistent with CalEEMod, a construction worker trip is assumed to be a composite of 50% LDA , 25% for LDT1, and 25% for LDT2. Used EMFAC 2011 Categories for construciton as EMFAC2011 has specific categories for vehicle class T7.

Calculation of Gasoline and Diesel Usage During Construction (Onroad Vehicles):

Phase Name	Daily Worker Trips	Daily Vendor Trips	Daily Haul Trips	Days	Total Worker Trips	Total Vendor Trips	Total Haul Trips	Trip Length (miles)			Total Length (miles)			Avg. Daily Factor	Gallons of Fuel	
								Worker	Vendor	Haul	Worker	Vendor	Haul	(worker and vendor)	Gasoline	Diesel
Demolition	25	0	40	20	500	0	800	18.5	10.2	30	9250	0	24000	0.6	204.1	3,858.2
Grading	75	10	250	65	4875	650	16250	18.5	10.2	30	90187.5	6630	487500	0.6	1,990.2	79,008.4
Building Foundation	75	40	0	174	13050	6960	0	18.5	10.2	20	241425	70992	0	0.6	5,327.6	6,847.5
Building Construction	100	40	0	305	30500	12200	0	18.5	10.2	20	564250	124440	0	0.6	12,451.5	12,002.7
Paving/Landscape	20	10	0	21	420	210	0	18.5	10.2	20	7770	2142	0	0.6	171.5	206.6
Architectural Coating	0	0	0	86	0	0	0	18.5	10.2	20	0	0	0	0.6	0.0	0.0
														Total:	**20,144.9**	**101,923.3**

Worker Miles per gallon=	27.19	gasoline
Vedor/Haul miles per gallon=	6.22	diesel

Notes: Consistent with CalEEMod worker vehicles are assumed to be gasoline and 50% LDA, 25%LDT1, and 25% LDT2. Vendor and haul trips are assumed to be 100% diesel Heavy Duty Trucks (T7).

Water Usage for Control of Fugitive Dust during Construction:

Phase	Days	Average Daily Acreage Distrubed	Gallons Per Year	Electricity (kWhr)
Demolition	20	0.5	30,200	294
Grading	65	0.5	98,150	955
Building Foundation	174	0.1	52,548	511
Building Construction	305	0	0	0
Paving/Landscape	21	0	0	0
Architectural Coating	86	0	0	0
		Total:	**180,898**	**1,760**

Water application rate=	3020	gal/acre/day
kWhr equivalent=	0.01	kWhr

Notes: 1) Gallons per year of water usage for dust control is calculated based on a minimum control efficiency of 66% (three times daily) with an application rate of 3,020 gal/acre/day (Air & Waste Management Association Air Pollution Engineering Manual (1992 Edition)) and average of 26 construction days per month.
2) CalEEMod Default: Each gallon of delivered potable water in Southern California is associated with 0.009727 kWhr of electricity).

6136 Manchester - Existing Operations Buildout Year
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
Automobile Care Center	19.6	1000sqft	0.45	19,650	0
Fast Food Restaurant with Drive-Thru	2.17	10000sqft	0.05	2165	0
Parking Lot	23.6	1000sqft	0.54	23,600	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Annual VMT*
	Weekday	*Saturday*	*Sunday*	
Total	**703.00**	**703.00**	**703.00**	**1,956,035**

Gasoline and Diesel Usage

	Buildout Year		Existing (Baseline) Year	
	Gasoline	*Diesel*	*Gasoline*	*Diesel*
Miles/Gallon	26.1	9.1	24.3	8.5
% Fleet Mix	94.3%	5.7%	94.8%	5.2%
Total (Gallons):	**70,546**	**12,270**	**76,385**	**12,017**

Energy by Land Use - Natural Gas

Land Uses	*kBTU/yr*	cu ft/year
Automobile Care Center	694,362	661,297
Fast Food Restaurant with Drive-Thru	205,090	195,324
Parking Lot		0
Total	**899,452**	**856,621**

Energy by Land Use - Electricity

Land Uses	*kWH/yr*
Automobile Care Center	190,335
Fast Food Restaurant with Drive-Thru	70,514
Parking Lot	40,524
Total	301,373

Water Detail

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Automobile Care Center	1.849	0.070	21,223
Fast Food Restaurant with Drive-Thru	0.675	0.000	7,502
Parking Lot	0.000	0.000	0
Total	2.524	0.070	**28,725**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr of electricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod).

6136 Manchester - Buildout Operations
Los Angeles-South Coast County, Annual

Land Use Details

Land Uses	*Size*	*Metric*	*Lot Acreage*	*Floor Surface Area*	*Population*
Apartment Mid Rise	441	Dwelling Units	2.4	400,795	1052
High Turnover (Sit Down Restaurant)	5.37	1000sqft	0	5,373	0
Strip Mall	11	1000sqft	0	10,747	0
Enclosed Parking with Elevator	566	Space	0	226400	0
Recreational Swimming Pool	0.865	1000sqft	0	865	0

Trip Summary Information

Land Uses	*Average Daily Trip Rate*			*Mitigated*
	Weekday	*Saturday*	*Sunday*	
Total	3,300	3,300	3,300	8,888,115

Mitigated Gasoline and Diesel Usage

	Gasoline	*Diesel*
Miles/Gallon	26.1	9.1
% Fleet Mix	94.3%	5.7%
Total (Gallons):	**320,558**	**55,753**

Note: Fleet mix is 92.3% gasoline @ 30.6 miles/gallon and 7.7% diesel @ 12.1 miles/gallon.

Energy by Land Use - Natural Gas (Mitigated)

Land Uses	*kBTU/yr*	cu ft/year
Apartment Mid Rise	0	0
High Turnover (Sit Down Restaurant)	754,650	718,714
Strip Mall	0	0
Unenclosed Parking with Elevator	0	0
Recreational Swimming Pool	0	0
Total	754,650	**718,714**

Energy by Land Use - Electricity (Mitigated)

Land Uses	*kWH/yr*
Apartment Mid Rise	1929272
High Turnover (Sit Down Restaurant)	551680
Strip Mall	76893
Unenclosed Parking with Elevator	810638.372
Recreational Swimming Pool	757662
Total	**4,126,145**

Note: Reduction in electricity usage reflects 2019 Title 24 energy efficiency standards and 25% for lighting.

Water Detail (Unmitigated)

Land Uses	*Indoor Use (Mgal)*	*Outdoor Use (Mgal)*	*Electricity Use (kWh/yr)*
Apartment Mid Rise	14.5815106	0.170739642	163,676
High Turnover (Sit Down Restaurant)	2.60966145	0	28,996
Strip Mall	0.31839333	0	3,538
Unenclosed Parking with Elevator	0	0	0
Recreational Swimming Pool	0.04092706	0	455
Total	17.55	0.17	**196,664**

Notes: Indoor water results in 0.0111 kWhr of electricity usage per gallon from delivery, treatment, and distribution of water within Southern California (CalEEMod). Outdoor water results in 0.009727 kWhr ofelectricity usage per gallon from delivery and distribution of water within Southern California (CalEEMod). The City of Los Angeles Green Building Code (Chapter IX, Article 9, of the LAMC) requires newly constructed non-residential and high-rise residential buildings to reduce indoor water use by at least 20 percent by: (1) using water saving fixtures or flow restrictions; and/or (2) demonstrating a 20 percent reduction in baseline water use. No reduction was applied to Elysian apartments.

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All Electric Calculation

CAPCOA Consumption Rate[a]

	Natural Gas (Therm/yr/KSF)								Electricity (kWh/yr/KSF)						
Building Type	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**		**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**
Apartment High Rise	268	48	20	17	31	35	NA		1052	350	262	365	205	560	NA
Retail	1	4	1		7	34	3		24	28	27		1249	2867	162
High Turnover (Sit Down Restaurant)	90	37	702	NA	48	67	4		35	268	1279	NA	3254	8965	6236

[a] California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emissions Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity. Appendix C. Table E-15. December 2021. Note: Residential use provides aux. heat which was included under cooling (residential use does not provide a natural gas usage for cooling or refrigeration). In addition, Table E-15 cites that the sample size for several end uses and housing types was limited and should be used with caution.

Project Energy Demand

		Natural Gas (Therm/yr/KSF)								Electricity (kWh/yr/KSF)							
Project Uses	**Amount (DU/KSF)**	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**	**Total**	**Water Heater**	**Primary Heat**	**Cooking**	**Dryer**	**Cooling**	**Misc**	**Refrig.**	**Total**
Apartment High Rise	489	131,052	23,472	9,780	8,313	15,159	17,115	NA	**204,891**	514,428	171,150	128,118	178,485	100,245	273,840	NA	**1,366,266**
Strip Mall	5.37	5	21	5	NA	38	183	16	**269**	129	150	145	NA	6,707	15,396	870	**23,397**
High Turnover (Sit Down Restaurant)	10.75	968	398	7,547	NA	516	720	43	**10,191**	376	2,881	0	NA	34,981	96,374	67,037	**201,649**
Total		132,025	23,891	17,332	8,313	15,713	18,018	59	**215,351**	514,933	174,181	128,263	178,485	141,933	385,610	67,907	**1,591,312**

CalEEMod Adjustments

Default Values

	Total Electricity	Total Natural Gas	Check	Difference between CalEEMod and CAPCOA natural gas usage	GHG Emissions (Electricity)	GHG Emissions (Natural Gas)	GHG Emissions (Total)
Apartment High Rise	1,605,628	4,853,501	20,489,100	322%	276	258	534
Strip Mall	53,496	26,457	26,850	1%	9	1	11
High Turnover (Sit Down Restaurant)	350,031	1,018,059	1,019,100	0%	60	54	114
Enclosed Parking with Elevator	810,638	0			139	-	139
Land Use Total (CalEEMod):	2,819,793	5,898,017			484	314	798
Swimming Pool	17,905	1,752,000			3	93	96
Fireplaces in Apartments		1,980,450			-	105	105
Grills (4) @ 360,000 btu/hr		539,136			-	29	29
Firepits (4) @ 100,000 btu/hr		174,720			-	9	9
Total:	**2,837,698**	**10,344,323**			**487**	**550**	**1,037**

Adjusted Values (Compliance with Code)

	Total Electricity	Total Natural Gas	GHG Emissions (Electricity)	GHG Emissions (Natural Gas)	GHG Emissions (Total)
Apartment High Rise	1,929,272	0	331	-	331
Strip Mall	76,893	0	13	-	13
High Turnover (Sit Down Restaurant)	551,680	754,650	95	40	135
Enclosed Parking with Elevator	810,638	0	139	-	139
Land Use Total (CalEEMod):	3,368,483	754,650	578	40	618
Swimming Pool	543,505	0	93	-	93
Fireplaces in Apartments		0	-	-	-
Grills (4) @ 360,000 btu/hr	161,741		28	-	28
Firepits (4) @ 100,000 btu/hr	52,416		9	-	9
Total:	**4,126,144**	**754,650**	**708**	**40**	**748**
Difference GHG-PDF-1 vs CalEEMod Default Factors:	1,288,446	(9,589,673)			
% Increase/Decrease	45%	-93%			

Adjusted Value for Apartment High Rise natural gas usage Includes adjustment for difference between CalEEMod and CAPCOA natural gas usage.

Additional Sources (Calculations)

	Natural Gas (Btu/hr)	Electricity (kWh/yr for an average single-family residential pool)		
	Pool and Spa Heat	**Heat Pump**	**Pool Pump**	**Spa Pump**
Swimming Pool	800,000	525600	2898	683
	Natural Gas (kBtu/yr)	**Electricity (kWh/yr)**		
	1,752,000	525600	14490	3415	543505

- Pool and Spa heat based on 2 (400,000 btu/hr) natural gas heaters 6 hours per day for 365 days/yr.
- Pool and spa pumps electricity usage is based on 2019 California Residential Appliance Saturation Study, Page 14: https://www.energy.ca.gov/sites/default/files/2021-08/CEC-200-2021-005-RSLTS.pdf
- Project pool and spa are conservatively estimated to be approximately 5 times the average single family residential pool.
- Electric pool heat (heat pump) assumes conversion of 1 therm = 30 kwh .

	Units	Natural Gas (kBtu/yr)	Electricity (kWh/yr)
Fireplaces in Apartments	489	1,980,450	
Grills (4) @ 360,000 btu/hr	6	539,136	161,741
Firepits (4) @ 100,000 btu/hr	7	174,720	52,416

Notes:
(1) CalEEmod provide pollutant emissions associated fireplaces, but does not include natural gas usage in output files. The provided usage rate is consistent with CalEEMod default factors (i.e., 90 percent of DUs have 60,000 btu/hr fireplaces, operate 25 days per year for three hours per day).
(2) Natural gas grills and firepits are assumed to operate 104 days per year for three hours per day @ 80 percent output.

GHG Emission Factors

Electricity lb/MWh	Natural Gas lb/MMBtu	Global Warming Potential	
375	116.9771	1	CO_2
0.0489	0.0104	25	CH_4
0.0069	0.0002	298	N_2O

EMFAC2021 Emissions Inventory
Region Type: County
Region: Los Angeles
Calendar Year: 2029
Season: Annual
Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)		
Los Angeles	2029	Annual	HHDT	Diesel	Aggregated	Aggregated	59,448	7,349,581	935,828	0.00	1,128.39		
Los Angeles	2029	Annual	HHDT	Gasoline	Aggregated	Aggregated	23	2,196	459	0.48	0.00		
Los Angeles	2029	Annual	LDA	Diesel	Aggregated	Aggregated	5,229	162,799	22,267	0.00	3.77		
Los Angeles	2029	Annual	LDA	Gasoline	Aggregated	Aggregated	3,174,510	123,546,649	14,711,781	3,965.78	0.00		
Los Angeles	2029	Annual	LDT1	Diesel	Aggregated	Aggregated	15	320	44	0.00	0.01		
Los Angeles	2029	Annual	LDT1	Gasoline	Aggregated	Aggregated	297,597	10,793,531	1,314,671	415.02	0.00		
Los Angeles	2029	Annual	LDT2	Diesel	Aggregated	Aggregated	6,099	253,165	29,112	0.00	7.64		
Los Angeles	2029	Annual	LDT2	Gasoline	Aggregated	Aggregated	1,752,550	70,903,010	8,231,547	2,783.98	0.00		
Los Angeles	2029	Annual	LHDT1	Diesel	Aggregated	Aggregated	70,154	2,966,019	882,447	0.00	141.74		
Los Angeles	2029	Annual	LHDT1	Gasoline	Aggregated	Aggregated	124,868	4,933,698	1,860,348	332.50	0.00		
Los Angeles	2029	Annual	LHDT2	Diesel	Aggregated	Aggregated	32,758	1,344,062	412,052	0.00	75.52		
Los Angeles	2029	Annual	LHDT2	Gasoline	Aggregated	Aggregated	18,591	685,895	276,975	53.18	0.00		
Los Angeles	2029	Annual	MCY	Gasoline	Aggregated	Aggregated	166,932	1,065,914	333,864	25.53	0.00		
Los Angeles	2029	Annual	MDV	Diesel	Aggregated	Aggregated	11,792	445,486	55,078	0.00	17.84		
Los Angeles	2029	Annual	MDV	Gasoline	Aggregated	Aggregated	1,018,028	38,576,342	4,733,561	1,853.90	0.00		
Los Angeles	2029	Annual	MH	Diesel	Aggregated	Aggregated	6,383	67,007	638	0.00	6.73		
Los Angeles	2029	Annual	MH	Gasoline	Aggregated	Aggregated	14,068	147,795	1,407	30.51	0.00		
Los Angeles	2029	Annual	MHDT	Diesel	Aggregated	Aggregated	64,457	2,595,181	794,546	0.00	284.57		
Los Angeles	2029	Annual	MHDT	Gasoline	Aggregated	Aggregated	13,050	705,189	261,103	129.91	0.00		
Los Angeles	2029	Annual	OBUS	Diesel	Aggregated	Aggregated	2,370	171,530	31,510	0.00	23.67		
Los Angeles	2029	Annual	OBUS	Gasoline	Aggregated	Aggregated	3,178	113,787	63,579	21.56	0.00		
Los Angeles	2029	Annual	SBUS	Diesel	Aggregated	Aggregated	1,606	32,735	23,261	0.00	4.35		
Los Angeles	2029	Annual	SBUS	Gasoline	Aggregated	Aggregated	1,563	71,007	6,252	7.74	0.00		
Los Angeles	2029	Annual	UBUS	Diesel	Aggregated	Aggregated	8	1,453	33	0.00	0.26		
Los Angeles	2029	Annual	UBUS	Gasoline	Aggregated	Aggregated	430	30,381	1,719	6.53	0.00		
Los Angeles	2029	Annual	LDA	Plug-in Hybrid	Aggregated	Aggregated	118,069	2,313,735	488,214	84.35	0.00		
Los Angeles	2029	Annual	LDT1	Plug-in Hybrid	Aggregated	Aggregated	1,736	34,397	7,180	1.26	0.00		
Los Angeles	2029	Annual	LDT2	Plug-in Hybrid	Aggregated	Aggregated	26,936	523,674	111,379	19.27	0.00		
Los Angeles	2029	Annual	MDV	Plug-in Hybrid	Aggregated	Aggregated	16,516	300,700	68,294	11.23	0.00		
												MPG	Gallons Per Mile
						Totals	270,137,240.84			9,742.75	1,694.50	**23.6**	0.04
						Total (GAS)	254,747,902.37	0.94				**26.1**	0.04
						Total (DSL)	15,389,338.47	0.06				**9.1**	0.11

Baseline Year
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories

Region	CalYr	Season	Veh_Class	Fuel	MdYr	Speed (miles/hr)	Population (vehicles)	VMT (miles/day)	Trips (trips/day)	Fuel_Gas (1000 gallons/day)	Fuel_DSL (1000 gallons/day)		
Los Angeles	2024	Annual	HHDT	Diesel	Aggregated	Aggregated	53,754	6,853,263	838,229	0.00	1,133.15		
Los Angeles	2024	Annual	HHDT	Gasoline	Aggregated	Aggregated	44	2,968	874	0.73	0.00		
Los Angeles	2024	Annual	LDA	Diesel	Aggregated	Aggregated	9,079	270,276	37,297	0.00	6.72		
Los Angeles	2024	Annual	LDA	Gasoline	Aggregated	Aggregated	3,388,823	134,787,726	15,748,887	4,681.69	0.00		
Los Angeles	2024	Annual	LDT1	Diesel	Aggregated	Aggregated	122	2,452	350	0.00	0.11		
Los Angeles	2024	Annual	LDT1	Gasoline	Aggregated	Aggregated	318,253	11,637,173	1,401,220	483.30	0.00		
Los Angeles	2024	Annual	LDT2	Diesel	Aggregated	Aggregated	5,016	218,613	24,221	0.00	7.06		
Los Angeles	2024	Annual	LDT2	Gasoline	Aggregated	Aggregated	1,590,817	65,943,414	7,487,016	2,819.14	0.00		
Los Angeles	2024	Annual	LHDT1	Diesel	Aggregated	Aggregated	57,966	2,559,141	729,143	0.00	125.04		
Los Angeles	2024	Annual	LHDT1	Gasoline	Aggregated	Aggregated	126,447	5,033,815	1,883,870	372.61	0.00		
Los Angeles	2024	Annual	LHDT2	Diesel	Aggregated	Aggregated	26,105	1,133,992	328,371	0.00	65.75		
Los Angeles	2024	Annual	LHDT2	Gasoline	Aggregated	Aggregated	19,310	723,443	287,696	61.32	0.00		
Los Angeles	2024	Annual	MCY	Gasoline	Aggregated	Aggregated	150,984	992,732	301,968	24.08	0.00		
Los Angeles	2024	Annual	MDV	Diesel	Aggregated	Aggregated	11,173	440,034	52,678	0.00	18.90		
Los Angeles	2024	Annual	MDV	Gasoline	Aggregated	Aggregated	961,866	36,861,227	4,457,929	1,933.82	0.00		
Los Angeles	2024	Annual	MH	Diesel	Aggregated	Aggregated	5,642	59,114	564	0.00	5.92		
Los Angeles	2024	Annual	MH	Gasoline	Aggregated	Aggregated	15,894	156,938	1,590	32.40	0.00		
Los Angeles	2024	Annual	MHDT	Diesel	Aggregated	Aggregated	60,974	2,592,300	748,009	0.00	290.83		
Los Angeles	2024	Annual	MHDT	Gasoline	Aggregated	Aggregated	14,868	815,923	297,486	158.20	0.00		
Los Angeles	2024	Annual	OBUS	Diesel	Aggregated	Aggregated	2,141	170,283	27,730	0.00	24.69		
Los Angeles	2024	Annual	OBUS	Gasoline	Aggregated	Aggregated	3,744	149,450	74,914	29.68	0.00		
Los Angeles	2024	Annual	SBUS	Diesel	Aggregated	Aggregated	1,963	40,241	28,427	0.00	5.46		
Los Angeles	2024	Annual	SBUS	Gasoline	Aggregated	Aggregated	1,424	65,854	5,696	7.33	0.00		
Los Angeles	2024	Annual	UBUS	Diesel	Aggregated	Aggregated	39	6,249	155	0.00	0.98		
Los Angeles	2024	Annual	UBUS	Gasoline	Aggregated	Aggregated	438	30,984	1,750	6.75	0.00		
Los Angeles	2024	Annual	LDA	Plug-in Hybrid	Aggregated	Aggregated	93,801	2,160,200	387,866	78.58	0.00		
Los Angeles	2024	Annual	LDT1	Plug-in Hybrid	Aggregated	Aggregated	478	10,957	1,977	0.40	0.00		
Los Angeles	2024	Annual	LDT2	Plug-in Hybrid	Aggregated	Aggregated	13,889	319,671	57,430	11.72	0.00		
Los Angeles	2024	Annual	MDV	Plug-in Hybrid	Aggregated	Aggregated	8,066	172,561	33,353	6.42	0.00		
												MPG	Gallons Per Mile
						Totals	274,210,993.18			10,708.19	1,684.61	**22.1**	0.05
						Total (GAS)	259,865,035.68	0.95				**24.3**	0.04
						Total (DSL)	14,345,957.50	0.05				**8.5**	0.12

Peak Electricity Demand Calculations

Electrical Load Factor Equation

$$f_{Load} = \frac{\text{Average load}}{\text{Maximum load in given time period}}$$

Load Factor (%)[1] **52%**

Project Electricity Demand (Operational)

Annual Demand	Baseline (Existing)	Project	Net Increase
Building (MWh)	301	4,245	3,943
Water (MWh)	29	197	168
Total (MWh)	330	4,441	4,111
Average Daily Demand			
Building (kWh)	826	11,629	10,803
Water (kWh)	79	539	460
Total (kWh)	904	12,168	11,264
Average Load			
Building (kW)	34	485	450
Water (kW)	3	22	19
Total (kW)	38	507	469

Peak Load Calculation

Peak Load (kW)	69	954	954
Systemwide Peak Load (MW)	5,907	5,907	5,907
Percent of Peak			0.016%

[1]2017 Report: System Efficiency of California's Electric Grid. California Public Utilities Comr
2017. Page 11, Figure 6. Visual estimate.

EMFAC Emission inventories for County

EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: **2026** (Construction Start Year)

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2026	HHDT	Aggregate	Aggregate	Diesel	0.00	1137.39
Los Angeles	2026	HHDT	Aggregate	Aggregate	Gasoline	0.60	0.00
Los Angeles	2026	LDA	Aggregate	Aggregate	Diesel	0.00	5.43
Los Angeles	2026	LDA	Aggregate	Aggregate	Gasoline	4348.93	0.00
Los Angeles	2026	LDT1	Aggregate	Aggregate	Diesel	0.00	0.08
Los Angeles	2026	LDT1	Aggregate	Aggregate	Gasoline	452.49	0.00
Los Angeles	2026	LDT2	Aggregate	Aggregate	Diesel	0.00	7.36
Los Angeles	2026	LDT2	Aggregate	Aggregate	Gasoline	2800.01	0.00
Los Angeles	2026	LHDT1	Aggregate	Aggregate	Diesel	0.00	134.85
Los Angeles	2026	LHDT1	Aggregate	Aggregate	Gasoline	358.04	0.00
Los Angeles	2026	LHDT2	Aggregate	Aggregate	Diesel	0.00	71.32
Los Angeles	2026	LHDT2	Aggregate	Aggregate	Gasoline	58.26	0.00
Los Angeles	2026	MCY	Aggregate	Aggregate	Gasoline	24.78	0.00
Los Angeles	2026	MDV	Aggregate	Aggregate	Diesel	0.00	18.51
Los Angeles	2026	MDV	Aggregate	Aggregate	Gasoline	1895.54	0.00
Los Angeles	2026	MH	Aggregate	Aggregate	Diesel	0.00	6.30
Los Angeles	2026	MH	Aggregate	Aggregate	Gasoline	31.54	0.00
Los Angeles	2026	MHDT	Aggregate	Aggregate	Diesel	0.00	291.63
Los Angeles	2026	MHDT	Aggregate	Aggregate	Gasoline	147.17	0.00
Los Angeles	2026	OBUS	Aggregate	Aggregate	Diesel	0.00	24.28
Los Angeles	2026	OBUS	Aggregate	Aggregate	Gasoline	26.17	0.00
Los Angeles	2026	SBUS	Aggregate	Aggregate	Diesel	0.00	5.06
Los Angeles	2026	SBUS	Aggregate	Aggregate	Gasoline	7.54	0.00
Los Angeles	2026	UBUS	Aggregate	Aggregate	Diesel	0.00	0.93
Los Angeles	2026	UBUS	Aggregate	Aggregate	Gasoline	6.65	0.00
Los Angeles	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	82.30	0.00
Los Angeles	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	0.70	0.00
Los Angeles	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	14.79	0.00
Los Angeles	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	8.49	0.00
						3,746,357,298	621,640,500
					Fuel Usage for Project Construction	20,145	170,853
					Percentage of County for Construction	0.0005%	0.027%

EMFAC Emission inventories for County

EMFAC2021 (v1.0.1) Emissions Inventory

Region Type: County

Region: Los Angeles

Calendar Year: **2029** (Operational Start Year)

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Fuel_Gasoline (1000 gallons/day)	Fuel_DSL (1000 gallons/day)
Los Angeles	2029	HHDT	Aggregate	Aggregate	Diesel	0.00	1128.39
Los Angeles	2029	HHDT	Aggregate	Aggregate	Gasoline	0.48	0.00
Los Angeles	2029	LDA	Aggregate	Aggregate	Diesel	0.00	3.77
Los Angeles	2029	LDA	Aggregate	Aggregate	Gasoline	3965.78	0.00
Los Angeles	2029	LDT1	Aggregate	Aggregate	Diesel	0.00	0.01
Los Angeles	2029	LDT1	Aggregate	Aggregate	Gasoline	415.02	0.00
Los Angeles	2029	LDT2	Aggregate	Aggregate	Diesel	0.00	7.64
Los Angeles	2029	LDT2	Aggregate	Aggregate	Gasoline	2783.98	0.00
Los Angeles	2029	LHDT1	Aggregate	Aggregate	Diesel	0.00	141.74
Los Angeles	2029	LHDT1	Aggregate	Aggregate	Gasoline	332.50	0.00
Los Angeles	2029	LHDT2	Aggregate	Aggregate	Diesel	0.00	75.52
Los Angeles	2029	LHDT2	Aggregate	Aggregate	Gasoline	53.18	0.00
Los Angeles	2029	MCY	Aggregate	Aggregate	Gasoline	25.53	0.00
Los Angeles	2029	MDV	Aggregate	Aggregate	Diesel	0.00	17.84
Los Angeles	2029	MDV	Aggregate	Aggregate	Gasoline	1853.90	0.00
Los Angeles	2029	MH	Aggregate	Aggregate	Diesel	0.00	6.73
Los Angeles	2029	MH	Aggregate	Aggregate	Gasoline	30.51	0.00
Los Angeles	2029	MHDT	Aggregate	Aggregate	Diesel	0.00	284.57
Los Angeles	2029	MHDT	Aggregate	Aggregate	Gasoline	129.91	0.00
Los Angeles	2029	OBUS	Aggregate	Aggregate	Diesel	0.00	23.67
Los Angeles	2029	OBUS	Aggregate	Aggregate	Gasoline	21.56	0.00
Los Angeles	2029	SBUS	Aggregate	Aggregate	Diesel	0.00	4.35
Los Angeles	2029	SBUS	Aggregate	Aggregate	Gasoline	7.74	0.00
Los Angeles	2029	UBUS	Aggregate	Aggregate	Diesel	0.00	0.26
Los Angeles	2029	UBUS	Aggregate	Aggregate	Gasoline	6.53	0.00
Los Angeles	2029	LDA	Aggregate	Aggregate	Plug-in Hybrid	84.35	0.00
Los Angeles	2029	LDT1	Aggregate	Aggregate	Plug-in Hybrid	1.26	0.00
Los Angeles	2029	LDT2	Aggregate	Aggregate	Plug-in Hybrid	19.27	0.00
Los Angeles	2029	MDV	Aggregate	Aggregate	Plug-in Hybrid	11.23	0.00

	3,513,721,584	618,491,405
Net Fuel Usage for Project Operation	250,012	43,483
Percentage of County for Operation	0.0071%	0.0070%