

Appendix Q
Energy Calculation Worksheets

Q-1 Construction Energy Calculation Worksheets

**Hollywood Center
Construction Energy Analysis**

Annual Fuel Summary

Heavy-Duty Construction Equipment - Diesel (gallons)	
457,759	Total Project Consumption
102,504	Annual Consumption (Overlap)
69,880	Annual Consumption (Sequential)
Haul Trucks - Diesel (gallons)	
395,223	Total Project Consumption
88,501	Annual Consumption (Overlap)
60,333	Annual Consumption (Sequential)
Vendor Trucks - Diesel (gallons)	
73,090	Total Project Consumption
16,367	Annual Consumption (Overlap)
11,158	Annual Consumption (Sequential)
Workers - Gasoline (gallons)	
523,816	Total Project Consumption
117,296	Annual Consumption (Overlap)
79,964	Annual Consumption (Sequential)
468,312	Project Consumption of diesel for Haul Trucks and Vendors
104,868	Annual Consumption (Overlap)
71,491	Annual Consumption (Sequential)
926,071	Total Gallons Diesel
523,816	Total Gallons Gasoline

4.5 Estimated Project Construction Duration - Overlap(years)
6.6 Estimated Project Construction Duration - Sequential(years)

207,372 Annual Average Gallons Diesel - Overlap
141,370 Annual Average Gallons Diesel - Sequential

117,296 Annual Average Gallons Gasoline - Overlap
79,964 Annual Average Gallons Gasoline - Sequential

Los Angeles County 2017			Percent of Annual Project Compared to Los Angeles County
Source	Fuel Type	Gallons	
Workers - Overlap	Gasoline	3,638,000,000	0.003%
Workers - Sequential	Gasoline	3,638,000,000	0.002%
Off-Road/Vendor/Haul Trucks - Overlap	Diesel	527,083,333	0.039%
Off-Road/Vendor/Haul Trucks - Sequential	Diesel	527,083,333	0.027%

Notes:

California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.

Annual Electricity Summary

Construction Water Energy Estimates-Overlap	41,195 kWh/year
Construction Water Energy Estimates-Sequential	28,084 kWh/year
Total Annual Electricity - Overlap	41,195 kWh/year
Total Annual Electricity - Sequential	28,084 kWh/year
LADWP Electricity Sales (2021-2022)	22,613,000,000 kWh/year
Annual Average Percent Project of LADWP - Overlap	0.0002%
Annual Average Percent Project of LADWP - Sequential	0.0001%

**Hollywood Center
Construction Energy Analysis**

Off-Road Equipment

Equipment ≤ 50 hp
pounds fuel/hp-hr (OFFROAD2011 model, ≤ 50 hp): 0.408 lb/hp-hr
diesel pounds/gallon (CARB density assumption): 7.07 lb/gal
diesel gallons/hp-hr: 0.0577 gal/hp-hr
Total <50: 266,932 hp-hr
Total diesel gallons: 15,404 gal

Equipment > 50 hp
pounds fuel/hp-hr (OFFROAD2011 model, > 50 hp): 0.367 lb/hp-hr
diesel pounds/gallon (CARB density assumption): 7.07 lb/gal
diesel gallons/hp-hr: 0.0519 gal/hp-hr
Total >50: 8,521,653 hp-hr
Total diesel gallons: 442,355 gal

Total diesel gallons (off-road equipment): 457,759 gal

Site	Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr		
West	Demolition	Air Compressors	1	8	78	0.48	49	14,676		
	Demolition	Concrete/Industrial Saws	2	8	81	0.73	49	46,358		
	Demolition	Dumpers/Tenders	1	8	16	0.38	49	2,383		
	Demolition	Excavators	1	8	158	0.38	49	23,536		
	Demolition	Generator Sets	1	8	84	0.74	49	24,367		
	Demolition	Rubber Tired Loaders	1	8	203	0.36	49	28,647		
	Utilities/Trenching	Air Compressors	1	8	78	0.48	18	5,391		
	Utilities/Trenching	Concrete/Industrial Saws	1	8	81	0.73	18	8,515		
	Utilities/Trenching	Cranes	1	8	231	0.29	18	9,647		
	Utilities/Trenching	Tractors/Loaders/Backhoes	1	8	97	0.37	18	5,168		
	Site Preparation	Excavators	1	8	158	0.38	24	11,528		
	Site Preparation	Rubber Tired Loaders	1	8	203	0.36	24	14,031		
	Grading	Bore/Drill Rigs	1	8	221	0.5	279	246,636		
	Grading	Dumpers/Tenders	2	8	16	0.38	279	27,141		
	Grading	Excavators	4	8	158	0.38	279	536,037		
	Grading	Plate Compactors	2	8	8	0.43	279	15,356		
	Grading	Rubber Tired Loaders	2	8	203	0.36	279	326,229		
	Grading	Tractors/Loaders/Backhoes	1	8	97	0.37	279	80,106		
	Foundations/Concrete Pour (1-day)	Pumps	2	14	84	0.74	1	1,740		
	Foundations/Concrete Pour	Air Compressors	1	8	78	0.48	49	14,676		
	Foundations/Concrete Pour	Cranes	1	8	231	0.29	49	26,260		
	Foundations/Concrete Pour	Dumpers/Tenders	2	8	16	0.38	49	4,767		
	Foundations/Concrete Pour	Forklifts	1	8	89	0.2	49	6,978		
	Foundations/Concrete Pour	Generator Sets	1	8	84	0.74	49	24,367		
	Foundations/Concrete Pour	Tractors/Loaders/Backhoes	1	8	97	0.37	49	14,069		
	Building Construction	Air Compressors	1	8	78	0.48	639	191,393		
	Building Construction	Bore/Drill Rigs	1	8	221	0.5	639	564,876		
	Building Construction	Cranes	2	8	231	0.29	639	684,906		
	Building Construction	Dumpers/Tenders	2	8	16	0.38	639	62,162		
	Building Construction	Forklifts	1	8	89	0.2	639	90,994		
	Building Construction	Generator Sets	1	8	84	0.74	639	317,762		
	Building Construction	Pumps	1	8	84	0.74	639	317,762		
	Building Construction	Tractors/Loaders/Backhoes	1	8	97	0.37	639	183,470		
	Architectural Coating	Air Compressors	1	8	78	0.48	398	119,209		
	Architectural Coating	Dumpers/Tenders	1	8	16	0.38	398	19,359		
	Architectural Coating	Forklifts	1	8	89	0.2	398	56,675		
	Paving	Concrete/Industrial Saws	1	8	81	0.73	76	35,951		
	Paving	Graders	1	8	84	0.74	76	37,793		
	Paving	Pavers	1	8	130	0.42	76	33,197		
	Paving	Paving Equipment	1	8	132	0.36	76	28,892		
	Paving	Plate Compactors	1	8	8	0.43	76	2,092		
	Paving	Rollers	1	8	80	0.38	76	18,483		
	Paving	Surfacing Equipment	1	8	263	0.3	76	47,971		
	Paving	Sweepers/Scrubbers	1	8	64	0.46	76	17,900		
	East	Site Preparation	Excavators	1	8	158	0.38	27	12,969	
		Site Preparation	Rubber Tired Loaders	1	8	203	0.36	27	15,785	
		Grading	Bore/Drill Rigs	1	8	221	0.5	259	228,956	
		Grading	Dumpers/Tenders	2	8	16	0.38	259	25,196	
		Grading	Excavators	4	8	158	0.38	259	497,612	
		Grading	Plate Compactors	2	8	8	0.43	259	14,255	
		Grading	Rubber Tired Loaders	2	8	203	0.36	259	302,844	
		Grading	Tractors/Loaders/Backhoes	1	8	97	0.37	259	74,364	
		Utilities/Trenching	Air Compressors	1	8	78	0.48	11	3,295	
		Utilities/Trenching	Concrete/Industrial Saws	1	8	81	0.73	11	5,203	
		Utilities/Trenching	Cranes	1	8	231	0.29	11	5,895	
		Utilities/Trenching	Tractors/Loaders/Backhoes	1	8	97	0.37	11	3,158	
		Foundations/Concrete Pour (1-day)	Pumps	2	11	84	0.74	1	1,368	
		Foundations/Concrete Pour	Air Compressors	1	8	78	0.48	40	11,981	
		Foundations/Concrete Pour	Cranes	1	8	231	0.29	40	21,437	
		Foundations/Concrete Pour	Dumpers/Tenders	1	8	16	0.38	40	1,946	
Foundations/Concrete Pour		Forklifts	1	8	89	0.2	40	5,696		
Foundations/Concrete Pour		Generator Sets	1	8	84	0.74	40	19,891		
Foundations/Concrete Pour		Tractors/Loaders/Backhoes	1	8	97	0.37	40	11,485		
Building Construction		Air Compressors	1	8	78	0.48	726	217,452		
Building Construction		Bore/Drill Rigs	1	8	221	0.5	726	641,784		
Building Construction		Cranes	2	8	231	0.29	726	778,156		
Building Construction		Dumpers/Tenders	2	8	16	0.38	726	70,625		
Building Construction		Forklifts	1	8	89	0.2	726	103,382		
Building Construction		Generator Sets	1	8	84	0.74	726	361,025		
Building Construction		Pumps	1	8	84	0.74	726	361,025		
Building Construction		Tractors/Loaders/Backhoes	1	8	97	0.37	726	208,449		
Architectural Coating		Air Compressors	1	8	78	0.48	401	120,108		
Architectural Coating		Dumpers/Tenders	1	8	16	0.38	401	19,505		
Architectural Coating		Forklifts	1	8	89	0.2	401	57,102		
Paving		Concrete/Industrial Saws	1	8	81	0.73	78	36,897		
Paving		Graders	1	8	187	0.41	78	47,842		
Paving		Pavers	1	8	130	0.42	78	34,070		
Paving		Paving Equipment	1	8	132	0.36	78	29,852		
Paving		Plate Compactors	1	8	8	0.43	78	2,147		
Paving		Rollers	1	8	80	0.38	78	18,970		
Paving		Surfacing Equipment	1	8	263	0.3	78	49,234		
Paving		Sweepers/Scrubbers	1	8	64	0.46	78	18,371		
								Total >50	8,521,653	
								Total <50	266,932	

**Hollywood Center
Construction Energy Analysis**

On-Road Vendor Trucks

			miles/gallon	
	0.1346	gallons/mile		7.4
	470,925	miles		
Total VMT diesel gallons (on-road vendor trucks):¹	63,372			
				<i>Estimated Fuel Savings from</i>
EMFAC2014 Diesel Fuel Consumption Factor: ²	1.7085	gallons/hour		<i>Anti-Idling Regulation (64 percent based on</i>
Total Haul Truck Idle-Hours per Year:	5,688	hours		<i>estimated CARB emissions reductions):³</i>
Total Idling diesel gallons (on-road haul trucks):	9,717			26,992
Total diesel gallons (on-road haul trucks):	73,090	gal		

1. California Air Resources Board, EMFAC2017 (South Coast Air Basin; HHDT and MHDT; Annual; CY 2021; Aggregate MY; Aggregate Speed)

2. California Air Resources Board, EMFAC2017 (South Coast Air Basin; HHDT and MHDT; Annual; CY 2021; Aggregate MY; 5 miles per hour converted to hourly rate)

3. Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, <https://www.arb.ca.gov/regact/idling/idling.htm>, accessed November 2016.

Phase	Days	Trips/Day	Miles/Trip	VMT	Idle Hours
West					
Demolition	49	0	6.9	-	-
Utilities/Trenching	18	0	6.9	-	-
Site Preparation	24	0	6.9	-	-
Grading	279	0	6.9	-	-
Foundations/Concrete Pour	49	0	6.9	-	-
Building Construction	639	50	6.9	220,455	2,663
Architectural Coating	398	0	6.9	-	-
Paving	76	0	6.9	-	-
East					
Site Preparation	27	0	6.9	-	-
Grading	259	0	6.9	-	-
Utilities/Trenching	11	0	6.9	-	-
Foundations/Concrete Pour	40	0	6.9	-	-
Building Construction	726	50	6.9	250,470	3,025
Architectural Coating	401	0	6.9	-	-
Paving	78	0	6.9	-	-
			Total Vendor Truck VMT:	470,925	
			Total Idle-Hours:		5,688

**Hollywood Center
Construction Energy Analysis**

On-Road Workers (LDA, LDT1, LDT2)

EMFAC2017 Gasoline Fuel Consumption Factor:¹ 0.0363 gallons/mile miles/gallon
 Total Worker VMT: 14,410,733 miles 27.5
Total VMT gasoline gallons (workers): 523,816

1. California Air Resources Board, EMFAC2017 (South Coast Air Basin; LDA, LDT1, LDT2; CY 2017; Aggregate MY; Aggregate Speed)

Phase	Days	One-Way Trips/Day	Miles/Trip	VMT
West				
Demolition	49	12	14.7	8,644
Utilities/Trenching	18	12	14.7	3,175
Site Preparation	24	24	14.7	8,467
Grading	279	224	14.7	918,691
Foundations/Concrete Pour	49	250	14.7	180,075
Building Construction	639	600	14.7	5,635,980
Architectural Coating	398	16	14.7	93,610
Paving	76	24	14.7	26,813
East				
Site Preparation	27	24	14.7	9,526
Grading	259	224	14.7	852,835
Utilities/Trenching	11	12	14.7	1,940
Foundations/Concrete Pour	40	248	14.7	145,824
Building Construction	726	600	14.7	6,403,320
Architectural Coating	401	16	14.7	94,315
Paving	78	24	14.7	27,518
Total Worker VMT:				14,410,733

**Hollywood Center
Construction Energy Analysis**

On-Road Haul Trucks

	0.1544 gallons/mile	miles/gallon	
	2,467,018 miles	6.48	
Total VMT diesel gallons (on-road haul trucks):¹	380,978		
EMFAC2014 Diesel Fuel Consumption Factor: ₂	1.7841 gallons/hour		<i>Estimated Fuel Savings from</i>
Total Haul Truck Idle-Hours per Year:	7,984 hours		<i>Anti-Idling Regulation (64 percent based on</i>
Total Idling diesel gallons (on-road haul trucks):	14,245		<i>estimated CARB emissions reductions):³</i>
			39,569
Total diesel gallons (on-road haul trucks):	395,223	gal	

- California Air Resources Board, EMFAC2017 (South Coast Air Basin; T7 Single Construction; Annual; CY 2021; Aggregate MY; Aggregate Speed)
- California Air Resources Board, EMFAC2017 (South Coast Air Basin; T7 Single Construction; Annual; CY 2021; Aggregate MY; 5 miles per hour converted to hourly rate)
- Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, <https://www.arb.ca.gov/regact/idling/idling.htm>, accessed November 2016.

Phase	Daily One-Way		Total One-Way		VMT	Idle Hours
	Trips	Hauling Days	Trips	Miles/Trip		
West						
Demolition	66	2	132	30.0	3,960	11
Grading/Excavation	192	209	40,196	30.0	1,205,871	3,350
Foundations/Concrete Pour (Revised) [MHW104: Foundation]						
Shoring Wall	20	19	380	7.5	2,850	32
Cast in Drilled Hole Foundation	4	41	164	7.5	1,230	14
Mat Foundation (Continuous Pour)	188	1	188	7.5	1,410	16
Column Footings	42	4	168	7.5	1,260	14
Building Construction (Revised) [Starting with MHW111: Parking Str.]						
Structure Equipment Garage	84	52	4,368	7.5	32,760	364
Structure Equipment Tower	42	42	1,764	7.5	13,230	147
Structure Equipment Affordable	48	22	1,056	7.5	7,920	88
Retail	28	2	56	7.5	420	5
East Site						
Site Preparation	52	2	104	30.0	3,120	9
Grading/Excavation	192	194	37,276	30.0	1,118,271	3,106
Foundations/Concrete Pour (Revised) [MHE104: Foundation]						
Shoring Wall	20	16	320	7.5	2,400	27
Cast in Drilled Hole Foundation	4	30	120	7.5	900	10
Mat Foundation (Continuous Pour)	142	1	142	7.5	1,065	12
Column Footings	42	4	168	7.5	1,260	14
Building Construction (Revised) [Starting with MHE111: Parking Str.]						
Structure Equipment Garage	88	58	5,104	7.5	38,280	425
Structure Equipment Tower	40	82	3,280	7.5	24,600	273
Structure Equipment Affordable	36	18	648	7.5	4,860	54
Retail	60	3	180	7.5	1,350	15
Total Haul Truck VMT:					2,467,018	
Total Idle-Hours:						7,984

Hollywood Center
Construction Energy Analysis

Construction Water Energy Estimates

Source	Construction Water Use per Day (Mgal)	Total Construction Water Use (Mgal)	Total Electricity Demand from water Demand (kWh)	Annual Electricity Demand from water Demand (kWh)
Project - Overlap			183968	41195
West Site	0.006	5.760	75001	
East Site	0.008	8.369	108967	
Project - Sequential			183968	28084
West Site	0.006	5.760	75001	
East Site	0.008	8.369	108967	
CalEEMod Water Electricity Factors	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
Project	9727	111	1272	1911

Sources:

Electricity Intensity Factors - California Emissions Estimator Model (CalEEMod).

Estimated construction water use assumed to be generally equivalent to landscape irrigation, based on a factor of 20.94 gallons per year per square foot of landscaped area within the Los Angeles area (Mediterranean climate), which assumes high water demand landscaping materials and an irrigation system efficiency of 85%. Factor is therefore $(20.94 \text{ GAL/SF/year}) \times (43,560 \text{ SF/acre}) / (365 \text{ days/year}) / (0.85) = 2,940 \text{ gallons/acre/day}$, rounded up to 3,000 gallons/acre/day. (U.S. Department of Energy, Energy Efficiency & Renewable Energy, Federal Energy Management Program. "Guidelines for Estimating Unmetered Landscaping Water Use." July 2010. Page 12, Table 4 - Annual Irrigation Factor – Landscaped Areas with High Water Requirements).

Q-2 Operational Energy Calculation Worksheets

Hollywood Center
Operational Energy Demand
 West Operational - 2024

Electricity	kWh/yr	GWh/yr
Apartments Mid Rise	267,988	0.268
City Park	11,972	0.012
Condo/Townhouse High Rise	1,886,090	1.886
Enclosed Parking with Elevator	2,340,250	2.340
Fast Food Restaurant w/o Drive Thru	85,664	0.086
General Office Building	518,186	0.518
High Turnover (Sit Down Restaurant)	485,430	0.485
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
EV Charging (see worksheet)	134,904	0.135
Total Building Energy	5,595,580	5.596
Total	5,730,484	5.730
Total (including water, see below)	6,128,997	6.129

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Electricity	GWh/yr
LADWP 2024-2025 Total Energy Sales	23,286
Project Annual	6.129
Net Project Annual	6.128997
Percent Net Project of LADWP	0.0263%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Water	Mgal/yr
Apartments Mid Rise	2.73
City Park	0.18
Condo/Townhouse High Rise	18.03
Enclosed Parking with Elevator	0.09
Fast Food Restaurant w/o Drive Thru	0.00
General Office Building	1.57
High Turnover (Sit Down Restaurant)	4.92
Other Non-Asphalt Surfaces	0.08
User Defined Parking	0.00
Cooling Tower	3.00
Total	30.605

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	GWh/yr
Total	398,513	0.399

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments Mid Rise	592,156	572,131
City Park	0	-
Condo/Townhouse High Rise	3,909,970	3,777,749
Enclosed Parking with Elevator	0	-
Fast Food Restaurant w/o Drive Thru	447,710	432,570
General Office Building	384,703	371,694
High Turnover (Sit Down Restaurant)	2,537,030	2,451,237
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
Total	7,871,569	7,605,381

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPGO_VGTH_btucf_a.htm. Accessed March 2020.)

Natural Gas	million cubic foot (cf)
SoCalGas 2024	892,060
Project Annual	7.605
Net Project Annual	7.605381
Percent Net Project of SoCalGas	0.0009%

Source: California Gas and Electric Utilities, 2018 California Gas

Report, p. 103, 2018.

Hollywood Center
Operational Energy Demand

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Analysis Year:	2024
EMFAC2017 Vehicle Population Mix % Electric	1.9%

Source: CARB, EMFAC2017 (SCAQMD region, year 2024, aggregate vehicle fleet).

Land Use Type	Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) ^c	Days/Year	Electricity Demand (kWh/yr)
Enclosed Parking With Elevator	837	10.0%	4.4	365	134,904

- a. Conservatively assumes each private garage has two outlets/panels.
- b. Assumes percent electric vehicle ownership is equal to the EMFAC2014 vehicle population mix.
- c. Estimated based on reference sources listed below.

Source	Electricity Demand (million kWh)	CO2	CH4	N2O	CO2e	MTCO2e (MT/yr)
EV Charging	0.1349	67,047	3.91	0.81	67,386	30.6

GHG	Intensity factor (lbs/MWh)
CO2	497
CH4	0.029
N2O	0.006

Sources:

- US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions. Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.
- US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace. Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.
- UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs. Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

Hollywood Center
Operational Energy Analysis
 West Operational - 2024
Fuel Usage from VMT

11,397 West Site Daily VMT

Annual VMT (Traffic Study)⁴:

4,159,905 miles/year

Fuel Type: ¹	GAS	DSL	ELEC
Percent:	93.9%	4.1%	1.9%
Miles per Gallon Fuel:	27.0	11.0	-
Annual VMT by Fuel Type (miles):	3,905,235	170,339	80,471
Annual Fuel Usage (gallons):	144,615	15,422	-
Emergency Generator		3,894	
Annual Fuel Savings from Electric Vehicles: ²	-	-	2,980

Los Angeles County Fuel Consumption ³		
	Gasoline	Diesel
Los Angeles County:	3,638,000,000	527,083,333
Project Annual:	144,615	19,316
Percent Net Project of Los Angeles County:	0.0040%	0.0037%

Notes:

- California Air Resources Board, EMFAC2017 (South Coast Air Basin; Annual; 2024', Aggregate Fleet).
- Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
- California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.
- Fehr & Peers, Transportation Assessment for the Hollywood Center Project, March 2020.

Hollywood Center
Emergency Generator Fuel Use

	Total CO₂ MT/yr	Fuel Type	Factor KGCO₂/gal	Gallons
Emergency Generator - West Site	39.52	diesel	10.15	3,894
Emergency Generator - West Site + East Site	79.05	diesel	10.15	7,788

Assumptions:

- 10.15 KGCO₂/gal diesel
- 8.91 KGCO₂/gal gasoline
- 1 MT = 1,000 kilograms

Hollywood Center
Operational Energy Demand
Operational - 2025 - All Residential

Electricity	kWh/yr	GWh/yr
Apartments Mid Rise	524,153	0.524
City Park	24,327	0.024
Condo/Townhouse High Rise	3,662,970	3.663
Enclosed Parking with Elevator	4,252,770	4.253
Fast Food Restaurant w/o Drive Thru	203,684	0.204
General Office Building	925,074	0.925
High Turnover (Sit Down Restaurant)	1,154,241	1.154
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
EV Charging (see worksheet)	245,718	0.246
Total Building Energy	10,747,219	10.747
Total	10,992,937	10.993
Total (including water, see below)	11,768,088	11.768

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Electricity	GWh/yr
LADWP 2025-2026 Total Energy Sales	23,537
Project Annual	11.768
Net Project Annual	11.768088
Percent Net Project of LADWP	0.0500%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Water	Mgal/yr
Apartments Mid Rise	5.34
City Park	0.45
Condo/Townhouse High Rise	35.01
Enclosed Parking with Elevator	0.16
Fast Food Restaurant w/o Drive Thru	0.00
General Office Building	2.73
High Turnover (Sit Down Restaurant)	11.71
Other Non-Asphalt Surfaces	0.14
User Defined Parking	0.00
Cooling Tower	3.99
Total	59.531

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	GWh/yr
Total	775,151	0.775

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments Mid Rise	1,158,187	1,119,021
City Park	0	-
Condo/Townhouse High Rise	7,593,530	7,336,744
Enclosed Parking with Elevator	0	-
Fast Food Restaurant w/o Drive Thru	1,064,525	1,028,527
General Office Building	686,778	663,554
High Turnover (Sit Down Restaurant)	6,032,470	5,828,473
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
Total	16,535,490	15,976,319

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPGO_VGTH_btucf_a.htm. Accessed March 2018.)

Natural Gas	million cubic foot (cf)
SoCalGas 2025	884,030
Project Annual	15,976
Net Project Annual	15.976319
Percent Net Project of SoCalGas	0.0018%

Source: California Gas and Electric Utilities, 2018 California Gas

Report, p. 103, 2018.

Hollywood Center
Electric Vehicle Charging
Operational - 2025 - All Residential

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Analysis Year:	2025
EMFAC2017 Vehicle Population Mix % Electric	2.2%

Source: CARB, EMFAC2017 (SCAQMD region, year 2025, aggregate vehicle fleet).

Land Use Type	Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) ^c	Days/Year	Electricity Demand (kWh/yr)
Enclosed Parking With Elevator	1,521	10.0%	4.4	365	245,718

Notes:

- a. Conservatively assumes each private garage has two outlets/panels.
- b. Assumes percent electric vehicle ownership is equal to the EMFAC2017 vehicle population mix.
- c. Estimated based on reference sources listed below.

Source	Electricity Demand (million kWh)	GHG Emissions (lbs/yr)				MTCO _{2e} (MT/yr)
		CO ₂	CH ₄	N ₂ O	CO _{2e}	
EV Charging	0.2457	122,122	7.13	1.47	122,739	55.7

GHG	Intensity factor (lbs/MWh)
CO ₂	497
CH ₄	0.029
N ₂ O	0.006

Sources:

- US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.
Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.
- US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.
Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.
- UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.
Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

Hollywood Center
Operational Energy Analysis
 Operational - 2025 - All Residential
Fuel Usage from VMT

24,394 West + East Site Daily VMT
 8,903,810 miles/year

Annual VMT (Traffic Study)⁴:

Fuel Type: ¹	GAS	DSL	ELEC
Percent:	93.5%	4.2%	2.2%
Miles per Gallon Fuel:	27.8	11.3	-
Annual VMT by Fuel Type (miles):	8,321,393	375,131	198,946
Annual Fuel Usage (gallons):	299,065	33,192	-
Emergency Generator		7,788	
Annual Fuel Savings from Electric Vehicles: ²	-	-	7,150

	Los Angeles County Fuel Consumption ³	
	Gasoline	Diesel
Los Angeles County:	3,638,000,000	527,083,333
Project Annual:	299,065	40,980
Percent Net Project of Los Angeles County:	0.0082%	0.0078%

Notes:

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; Annual; 2025', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.
4. Fehr & Peers, Transportation Assessment for the Hollywood Center Project, March 2020.

Hollywood Center
Operational Energy Demand
Operational - 2025 - Hotel

Electricity	kWh/yr	GWh/yr
Apartments Mid Rise	457,156	0.457
City Park	24,327	0.024
Condo/Townhouse High Rise	3,226,100	3.226
Enclosed Parking with Elevator	4,252,770	4.253
Fast Food Restaurant w/o Drive Thru	203,684	0.204
General Office Building	787,842	0.788
High Turnover (Sit Down Restaurant)	1,154,241	1.154
Hotel	1,031,490	1.031
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
EV Charging (see worksheet)	245,718	0.246
Total Building Energy	11,137,610	11.138
Total	11,383,328	11.383
Total (including water, see below)	12,252,572	12.253

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Electricity	GWh/yr
LADWP 2025-2026 Total Energy Sales	23,537
Project Annual	12.253
Net Project Annual	12.252572
Percent Net Project of LADWP	0.0521%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Water	Mgal/yr
Apartments Mid Rise	4.65
City Park	0.44
Condo/Townhouse High Rise	30.79
Enclosed Parking with Elevator	0.16
Fast Food Restaurant w/o Drive Thru	0.00
General Office Building	3.39
High Turnover (Sit Down Restaurant)	11.71
Hotel	9.45
Other Non-Asphalt Surfaces	0.08
User Defined Parking	0.00
Cooling Tower	6.10
Total	66.757

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	GWh/yr
Total	869,245	0.869

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments Mid Rise	1,010,148	975,988
City Park	0	-
Condo/Townhouse High Rise	6,687,880	6,461,720
Enclosed Parking with Elevator	0	-
Fast Food Restaurant w/o Drive Thru	1,064,525	1,028,527
General Office Building	584,897	565,118
High Turnover (Sit Down Restaurant)	6,032,470	5,828,473
Hotel	3,068,500	2,964,734
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
Total	18,448,420	17,824,560

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPGO_VGTH_btucf_a.htm. Accessed March 2018.)

Natural Gas	million cubic foot (cf)
SoCalGas 2025	884,030
Project Annual	17.825
Net Project Annual	17.824560
Percent Net Project of SoCalGas	0.0020%

Source: California Gas and Electric Utilities, 2018 California Gas Report, p. 103, 2018.

Hollywood Center
Electric Vehicle Charging
Operational - 2025 - Hotel

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Analysis Year:	2025
EMFAC2017 Vehicle Population Mix % Electric	2.2%

Source: CARB, EMFAC2017 (SCAQMD region, year 2025, aggregate vehicle fleet).

Land Use Type	Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) ^c	Days/Year	Electricity Demand (kWh/yr)
Enclosed Parking With Elevator	1,521	10.0%	4.4	365	245,718

Notes:

- a. Conservatively assumes each private garage has two outlets/panels.
- b. Assumes percent electric vehicle ownership is equal to the EMFAC2014 vehicle population mix.
- c. Estimated based on reference sources listed below.

Source	Electricity Demand (million kWh)	GHG Emissions (lbs/yr)				MTCO _{2e} (MT/yr)
		CO ₂	CH ₄	N ₂ O	CO _{2e}	
EV Charging	0.2457	122,122	7.13	1.47	122,739	55.7

GHG	Intensity factor (lbs/MWh)
CO ₂	497
CH ₄	0.029
N ₂ O	0.006

Sources:

- US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.
Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.
- US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.
Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.
- UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.
Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

Hollywood Center
Operational Energy Analysis
 Operational - 2025 - Hotel
Fuel Usage from VMT

Annual VMT (Traffic Study)⁴: 28,810 West + East Site Hotel Option Daily VMT
 10,515,650 miles/year

Fuel Type: ¹	GAS	DSL	ELEC
Percent:	93.5%	4.2%	2.2%
Miles per Gallon Fuel:	27.8	11.3	-
Annual VMT by Fuel Type (miles):	9,827,799	443,040	234,961
Annual Fuel Usage (gallons):	353,204	39,201	-
Emergency Generator		7,788	
Annual Fuel Savings from Electric Vehicles: ²	-	-	8,444

	Los Angeles County Fuel Consumption ³	
	Gasoline	Diesel
Los Angeles County:	3,638,000,000	527,083,333
Project Annual:	353,204	46,989
Percent Net Project of Los Angeles County:	0.0097%	0.0089%

Notes:

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; Annual; 2025', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.
4. Fehr & Peers, Transportation Assessment for the Hollywood Center Project, March 2020.

Hollywood Center
Emergency Generator Fuel Use

	Total CO₂ MT/yr	Fuel Type	Factor KGCO₂/gal	Gallons
Emergency Generator - West Site	39.52	diesel	10.15	3,894
Emergency Generator - West Site + East Site	79.05	diesel	10.15	7,788

Assumptions

10.15 KGCO₂/gal diesel

8.91 KGCO₂/gal gasoline

1 MT = 1,000 kilograms

Hollywood Center
Operational Energy Demand
Operational - 2027 - All Residential

Electricity	kWh/yr	GWh/yr
Apartments Mid Rise	524,153	0.524
City Park	24,327	0.024
Condo/Townhouse High Rise	3,662,970	3.663
Enclosed Parking with Elevator	4,252,770	4.253
Fast Food Restaurant w/o Drive Thru	203,684	0.204
General Office Building	925,074	0.925
High Turnover (Sit Down Restaurant)	1,154,241	1.154
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
EV Charging (see worksheet)	245,718	0.246
Total Building Energy	10,747,219	10.747
Total	10,992,937	10.993
Total (including water, see below)	11,768,088	11.768

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Electricity	GWh/yr
LADWP 2027-2028 Total Energy Sales	24,078
Project Annual	11.768
Net Project Annual	11.768088
Percent Net Project of LADWP	0.0489%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Water	Mgal/yr
Apartments Mid Rise	5.34
City Park	0.45
Condo/Townhouse High Rise	35.01
Enclosed Parking with Elevator	0.16
Fast Food Restaurant w/o Drive Thru	0.00
General Office Building	2.73
High Turnover (Sit Down Restaurant)	11.71
Other Non-Asphalt Surfaces	0.14
User Defined Parking	0.00
Cooling Tower	3.99
Total	59.531

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	GWh/yr
Total	775,151	0.775

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments Mid Rise	1,158,187	1,119,021
City Park	0	-
Condo/Townhouse High Rise	7,593,530	7,336,744
Enclosed Parking with Elevator	0	-
Fast Food Restaurant w/o Drive Thru	1,064,525	1,028,527
General Office Building	686,778	663,554
High Turnover (Sit Down Restaurant)	6,032,470	5,828,473
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
Total	16,535,490	15,976,319

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPGO_VGTH_btucf_a.htm. Accessed March 2018.)

Natural Gas	million cubic foot (cf)
SoCalGas 2027	867,605
Project Annual	15.976
Net Project Annual	15.976319
Percent Net Project of SoCalGas	0.0018%

Source: California Gas and Electric Utilities, 2018 California Gas

Report, p. 103, 2018.

Hollywood Center
Electric Vehicle Charging
Operational - 2027 - All Residential

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Analysis Year:	2027
EMFAC2017 Vehicle Population Mix % Electric	2.8%

Source: CARB, EMFAC2017 (SCAQMD region, year 2027, aggregate vehicle fleet).

Land Use Type	Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) ^c	Days/Year	Electricity Demand (kWh/yr)
Enclosed Parking With Elevator	1,521	10.0%	4.4	365	245,718.00

Notes:

- a. Conservatively assumes each private garage has two outlets/panels.
- b. Assumes percent electric vehicle ownership is equal to the EMFAC2014 vehicle population mix.
- c. Estimated based on reference sources listed below.

Source	Electricity Demand (million kWh)	GHG Emissions (lbs/yr)				MTCO _{2e} (MT/yr)
		CO ₂	CH ₄	N ₂ O	CO _{2e}	
EV Charging	0.2457	109,099	7.13	1.47	109,716	49.8

GHG	Intensity factor (lbs/MWh)
CO ₂	444
CH ₄	0.029
N ₂ O	0.006

Sources:

- US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.
Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.
- US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.
Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.
- UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.
Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

Hollywood Center
Operational Energy Analysis
 Operational - 2027 - All Residential
Fuel Usage from VMT

24,394 West + East Site Daily VMT

Annual VMT (Traffic Study)⁴:

8,903,810 miles/year

Fuel Type: ¹	GAS	DSL	ELEC
Percent:	92.7%	4.4%	2.8%
Miles per Gallon Fuel:	29.3	11.8	-
Annual VMT by Fuel Type (miles):	8,256,671	392,825	245,850
Annual Fuel Usage (gallons):	281,617	33,254	-
Emergency Generator		7,788	
Annual Fuel Savings from Electric Vehicles: ²	-	-	8,385

	Los Angeles County Fuel Consumption ³	
	Gasoline	Diesel
Los Angeles County:	3,638,000,000	527,083,333
Project Annual:	281,617	41,041
Percent Net Project of Los Angeles County:	0.0077%	0.0078%

Notes:

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; Annual; 2027', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.
4. Fehr & Peers, Transportation Assessment for the Hollywood Center Project, March 2020.

Hollywood Center
Operational Energy Demand
Operational - 2027 - Hotel

Electricity	kWh/yr	GWh/yr
Apartments Mid Rise	457,156	0.457
City Park	24,327	0.024
Condo/Townhouse High Rise	3,226,100	3.226
Enclosed Parking with Elevator	4,252,770	4.253
Fast Food Restaurant w/o Drive Thru	203,684	0.204
General Office Building	787,842	0.788
High Turnover (Sit Down Restaurant)	1,154,241	1.154
Hotel	1,031,490	1.031
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
EV Charging (see worksheet)	245,718	0.246
Total Building Energy	11,137,610	11.138
Total	11,383,328	11.383
Total (including water, see below)	12,252,572	12.253

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Electricity	GWh/yr
LADWP 2027-2028 Total Energy Sales	24,078
Project Annual	12.253
Net Project Annual	12.252572
Percent Net Project of LADWP	0.051%

Source: Los Angeles Department of Water and Power, 2017 Long-Term Resource Plan, Appendix A, 2017.

Water	Mgal/yr
Apartments Mid Rise	4.65
City Park	0.44
Condo/Townhouse High Rise	30.79
Enclosed Parking with Elevator	0.16
Fast Food Restaurant w/o Drive Thru	0.00
General Office Building	3.39
High Turnover (Sit Down Restaurant)	11.71
Hotel	9.36
Other Non-Asphalt Surfaces	0.16
User Defined Parking	0.00
Cooling Tower	6.10
Total	66.76

Electricity Intensity Factors	kWh/Mgal
Electricity Factor - Supply	9,727
Electricity Factor - Treat	111
Electricity Factor - Distribute	1,272
Electricity Factor - Wastewater Treatment	1,911

Electricity from Water Demand	kWh/yr	GWh/yr
Total	869,245	0.869

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Water Demand based on Project Water supply Assessment

Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

Natural Gas	kBtu/yr	cubic foot (cf)
Apartments Mid Rise	1,010,148	975,988
City Park	0	-
Condo/Townhouse High Rise	6,687,880	6,461,720
Enclosed Parking with Elevator	0	-
Fast Food Restaurant w/o Drive Thru	1,064,525	1,028,527
General Office Building	584,897	565,118
High Turnover (Sit Down Restaurant)	6,032,470	5,828,473
Hotel	3,068,500	2,964,734
Other Non-Asphalt Surfaces	0	-
User Defined Parking	0	-
Total	18,448,420	17,824,560

Source: California Air Resources Board, CalEEMod, Version 2016.3.2.

Conversion factor of 1,035 Btu per cubic foot based on United States Energy Information Administration data

(see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, February 28, 2018,

https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed March 2018.)

Natural Gas	million cubic foot (cf)
SoCalGas 2027	867,605
Project Annual	17.825
Net Project Annual	17.824560
Percent Net Project of SoCalGas	0.0021%

Source: California Gas and Electric Utilities, 2018 California Gas Report, p. 103, 2018.

Hollywood Center
Electric Vehicle Charging
Operational - 2027 - Hotel

Estimated Electricity demand from Electric Vehicle Supply Equipment (EVSE)

Analysis Year:	2027
EMFAC2017 Vehicle Population Mix % Electric	2.8%

Source: CARB, EMFAC2017 (SCAQMD region, year 2027, aggregate vehicle fleet).

Land Use Type	Number of Parking Spaces	Percent of Spaces with Charging Stations	Average Charge (kWh/day) ^c	Days/Year	Electricity Demand (kWh/yr)
Enclosed Parking With Elevator	1,521	10.0%	4.4	365	245,718

Notes:

- a. Conservatively assumes each private garage has two outlets/panels.
- b. Assumes percent electric vehicle ownership is equal to the EMFAC2014 vehicle population mix.
- c. Estimated based on reference sources listed below.

Source	Electricity Demand (million kWh)	GHG Emissions (lbs/yr)				MTCO _{2e} (MT/yr)
		CO ₂	CH ₄	N ₂ O	CO _{2e}	
EV Charging	0.2457	109,099	7.13	1.47	109,716	49.8

GHG	Intensity factor (lbs/MWh)
CO ₂	444
CH ₄	0.029
N ₂ O	0.006

Sources:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions.

Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace.

Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs.

Available at: <http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf>.

Hollywood Center
Operational Energy Analysis
 Operational - 2027 - Hotel
Fuel Usage from VMT

28,810 West + East Site Hotel Option Daily VMT

Annual VMT (Traffic Study)⁴: 10,515,650 miles/year

Fuel Type: ¹	GAS	DSL	ELEC
Percent:	92.7%	4.4%	2.8%
Miles per Gallon Fuel:	29.3	11.8	-
Annual VMT by Fuel Type (miles):	9,751,361	463,937	290,355
Annual Fuel Usage (gallons):	332,597	39,274	-
Emergency Generator		7,788	
Annual Fuel Savings from Electric Vehicles: ²	-	-	9,903

Los Angeles County Fuel Consumption ³		
	Gasoline	Diesel
Los Angeles County:	3,638,000,000	527,083,333
Project Annual:	332,597	47,061
Percent Net Project of Los Angeles County:	0.0091%	0.0089%

Notes:

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; Annual; 2027', Aggregate Fleet).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.
3. California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed March 2020. Diesel is adjusted to account for retail (48%) and non-retail (52%) diesel sales.
4. Fehr & Peers, Transportation Assessment for the Hollywood Center Project, March 2020.

Hollywood Center
Emergency Generator Fuel Use

	Total CO₂ MT/yr	Fuel Type	Factor KGCO₂/gal	Gallons
Emergency Generator - West Site	39.52	diesel	10.15	3,894
Emergency Generator - West Site + East Site	79.05	diesel	10.15	7,788

Assumptions

10.15 KGCO₂/gal diesel
 8.91 KGCO₂/gal gasoline
 1 MT = 1,000 kilograms