

# Appendix B

## Air Quality and Greenhouse Gas Emissions

**Construction Emissions - Unmitigated**

Phase	Source	ROG	NOx	PM10			PM2.5		
				Exhaust	Dust	Total	Exhaust	Dust	Total
Peak Construction Emissions - First Year (pounds/day)									
Timber Removal and Grubbing	Equipment	7	62	2	0	2	2	0	2
	Vehicles	4	52	1	1,739	1,740	0	174	174
Grading and Access Road Work	Equipment	21	208	9	45	54	8	21	29
	Vehicles	4	43	2	1,062	1,064	1	107	108
Concrete Batch Plants or Deliveries (assume deliveries)*	Equipment	5	43	2	6	8	2	4	6
	Vehicles	2	19	1	1,266	1,267	0	127	128
Foundations	Equipment	5	57	3	19	21	3	10	13
	Vehicles	0	0	0	302	302	0	30	30
<b>Total (1, 2)</b>		<b>35</b>	<b>365</b>	<b>14</b>	<b>2,846</b>	<b>2,860</b>	<b>12</b>	<b>302</b>	<b>313</b>
Total (2, 3, 4, 5)		32	328	14	2,694	2,708	12	295	307
Peak Construction Emissions - Second Year (pounds/day)									
Turbine and Transformer Installation	Equipment	6	67	3	0	3	3	0	3
	Vehicles	2	39	1	527	528	1	55	55
Substation and O&M Building Installation	Equipment	1	10	0	0	0	0	0	0
	Vehicles	1	3	1	595	596	0	60	61
Underground Collector System	Equipment	3	32	2	6	8	2	3	5
	Vehicles	0	0	0	179	179	0	18	18
Overhead Collection System	Equipment	3	34	2	0	2	1	0	1
	Vehicles	0	0	0	179	179	0	18	18
	Helicopter	13	19	1	10	10	1	1	1
<b>Total</b>		<b>29</b>	<b>205</b>	<b>9</b>	<b>1,497</b>	<b>1,506</b>	<b>8</b>	<b>154</b>	<b>162</b>

\*Equipment emissions from the on-site concrete batch plant have been subtracted out of the total emissions for the worst-case scenario of trucking concrete to the site.

**Construction Emissions - Mitigated (Tier 4 for all off-road equipment)**

Phase	Source	ROG	NOx	PM10			PM2.5		
				Exhaust	Dust	Total	Exhaust	Dust	Total
Peak Construction Emissions - First Year (pounds/day)									
Timber Removal and Grubbing	Equipment	2	8	0	0	0	0	0	0
	Vehicles	4	52	1	280	281	0	28	29
Grading and Access Road Work	Equipment	4	17	1	20	21	1	9	10
	Vehicles	4	43	2	175	177	1	8	9
Concrete Batch Plants or Deliveries*	Equipment	1	8	0	6	6	0	4	4
	Vehicles	2	19	1	128	129	0	14	14
Foundations	Equipment	1	7	0	8	8	0	5	5
	Vehicles	0	0	0	30	30	0	3	3
<b>Total (1, 2)</b>		<b>13</b>	<b>120</b>	<b>4</b>	<b>475</b>	<b>479</b>	<b>2</b>	<b>45</b>	<b>48</b>
Total (2, 3, 4, 5)		10	87	3	361	365	2	38	40
Percent Reduction			67%	74%	83%	83%	81%	85%	
Peak Construction Emissions - Second Year (pounds/day)									
Turbine and Transformer Installation	Equipment	1	6	0	0	0	0	0	0
	Vehicles	2	39	1	61	62	1	8	9
Substation and O&M Building Installation	Equipment	0	3	0	0	0	0	0	0
	Vehicles	1	3	1	63	63	0	7	7
Underground Collector System	Equipment	1	7	0	3	3	0	1	2
	Vehicles	0	0	0	18	18	0	2	2
Overhead Collection System	Equipment	1	8	0	0	0	0	0	0
	Vehicles	0	0	0	18	18	0	2	2
	Helicopter	13	19	1	10	10	1	1	1
<b>Total</b>		<b>18</b>	<b>85</b>	<b>3</b>	<b>172</b>	<b>175</b>	<b>2</b>	<b>21</b>	<b>23</b>
			59%	68%	89%	88%	75%	87%	

\*Equipment emissions from the on-site concrete batch plant have been subtracted out of the total emissions for the worst-case scenario of trucking concrete to the site.

**Operation and Maintenance Emissions**

Source	ROG	NOx	PM10			PM2.5		
			Exhaust	Dust	Total	Exhaust	Dust	Total
Worker Vehicle Emissions	0.14	0.23	0.12	54.48	54.60	0.05	5.58	5.63
Maintenance Work with Cranes and Mowers	0.53	5.51	0.27	0.00	0.27	0.25	0	0.25
Emergency Generator Testing and Maintenance	0.88	2.46	0.13	0	0.13	0.13	0	0.13
<b>Total (pounds per day)</b>	<b>1.55</b>	<b>8.19</b>	<b>0.52</b>	<b>54.48</b>	<b>55.00</b>	<b>0.43</b>	<b>5.58</b>	<b>6.01</b>

**Operation and Maintenance Emissions - Mitigated**

Source	ROG	NOx	PM10			PM2.5		
			Exhaust	Dust	Total	Exhaust	Dust	Total
Worker Vehicle Emissions	0.00	0.00	0.00	15.25	15.25	0.00	2.79	2.79
Maintenance Work with Cranes and Mowers	0.53	5.51	0.27	0.00	0.27	0.25	0	0.25
Emergency Generator Testing and Maintenance	0.88	2.46	0.13	0	0.13	0.13	0	0.13
<b>Total (pounds per day)</b>	<b>1.41</b>	<b>7.97</b>	<b>0.40</b>	<b>15.25</b>	<b>15.65</b>	<b>0.38</b>	<b>2.79</b>	<b>3.17</b>

**Fugitive Dust Associated with Concrete Batch Plants**

Source	PM10 (lb/yd3)	concrete (yd3)	lbs PM10	lbs PM2.5
Aggregate delivery to ground storage	0.0031	36,946	114.53	77.194972
Sand delviery to ground storage	0.0007	36,946	25.86	17.431123
Aggreage transfer to conveyor	0.0031	36,946	114.53	77.194972
San transfer to conveyor	0.0007	36,946	25.86	17.431123
Aggregate transfer to elevated storage	0.0031	36,946	114.53	77.194972
Sand transfer to elevated storage	0.0007	36,946	25.86	17.431123
Cement delivery to silo	0.0001	36,946	3.69	2.4901604
Cement supplement to silo	0.0002	36,946	7.39	4.9803208
		Total	432.27	291.35
		Days	70	70
		lb/day	6.18	4.16

Notes:

Concrete volume obtained from traffic study.

Emission factors obtained from AP-42 Table 11.12.6.

PM2.5 Fraction of PM10 is 0.674 (South Coast AQMD, 2006).

## HELICOPTER (Bell 206L) EMISSION CALCULATIONS

Helicopter Model	Bell 206L
Engine Type	DDA250-C30P
Fuel Burn Rate (flight)	149 gal/hr
Fuel Burn Rate (LTO)	24 gal/LTO
Aviation Gasoline Fuel Density	6.01 lbs/gal
CO <sub>2</sub> Emission Factor	18.28 lbs/gal fuel
CH <sub>4</sub> Emission Factor	0.01557 lbs/gal fuel
N <sub>2</sub> O Emission Factor	0.00024 lbs/gal fuel
CH <sub>4</sub> Global Warming Potential	25
N <sub>2</sub> O Global Warming Potential	298

Activity	Combustion Emission Factors				Fugitive Emission Factors		GHG Emission Factors		
	HC	CO	NOx	PM	PM10	PM2.5	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>
Flight (lbs/hr)	1.46	1.81	2.45	0.07	-	-	6,021.49	0.08	5.13
LTO (lbs)	0.63	0.81	0.29	0.01	3.31	0.33	951.19	0.01	0.81

Activity	Quantity	Combustion Emissions (lbs/day)				Fugitive Emissions (lbs/day)		GHG Emissions (lbs/day)			
		HC	CO	NOx	PM	PM10	PM2.5	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub> e
Conductor Installation - Applicable to both the Overhead Collection System and Transmission Line Connection phases											
Flight	7.33 hrs/day	10.66	13.24	17.93	0.52	-	-	44,107.43	0.57	37.57	45,216.20
LTO	3.00 LTOs/day	1.89	2.42	0.86	0.03	9.92	0.99	2,853.56	0.04	2.43	2,925.29
Total		12.55	15.66	18.79	0.54	9.92	0.99	46,960.99	0.61	40.00	48,141.49

Activity	Working Days	Combustion Emissions (tons)				Fugitive Emissions (tons)		GHG Emissions (metric tons)			
		HC	CO	NOx	PM	PM10	PM2.5	CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	CO <sub>2</sub> e
Conductor Installation											
Overhead Collection Sytem stringing	5.00	0.03	0.04	0.05	0.00	0.02	0.00	106.51	0.00	0.09	109.18
Transmission Line Connection stringing	1.00	0.01	0.01	0.01	0.00	0.00	0.00	21.30	0.00	0.02	21.84
Total		0.01	0.01	0.01	0.00	0.00	0.00	127.81	0.00	0.11	131.02

**Notes:**

Emission factors and fuel burn rates obtained from the FOCA Guidance on Determination of Helicopter Emissions, Edition 2, December 2015.

LTO = Landing and take-off cycle.

Each day of helicopter operations was assumed to contain 3 LTOs, each 13.5 minutes long. The helicopter was assumed to be in flight during the remainder of the day's operations.

Emission factors are for the Bell 206L (650 hp).

Fugitive dust emission factor source: Dr. J. A. Gillies et. al. December 31, 2007. Particulate Matter Emissions for Dust from Unique Military Activities . Measurements indicated approximately 0.5 kg of PM10 during takeoff and 1 kg during landing. Measurements were conducted in dry, unpaved, desert in Arizona. The model used in testing was a UH-1H Huey, generally similar to the helicopter above. The 0.5 kg takeoff and 1 kg landing emission factor is conservatively assumed for all helicopters. The landing and takeoff surface is assumed to be watered, reducing fugitive dust emissions 55%.

PM2.5/PM10 Factor: Western Governors' Association. September 7, 2006. WRAP Fugitive Dust Handbook. The emission factor for PM2.5 for unpaved roads is 0.1 x PM10 emissions.

Greenhouse gas emission factors and global warming potentials obtained from California Climate Action Registry General Reporting Protocol, Version 3.0, May 2019.

Density of fuel from ExxonMobil Aviation World Jet Fuel Specifications, 2005 Edition.

775-840 kg/m<sup>3</sup> = 6.47 - 7.01 lb/gallon

Average Density = 6.74 lb/gallon

### Greenhouse Gas Construction Emissions

Phase	Source	CO2e
<b>First Year (metric tons/year)</b>		
Timber Removal and Grubbing	Equipment	505
	Vehicles	550
Grading and Access Road Work	Equipment	2,318
	Vehicles	740
Concrete Batch Plants*	Equipment	299
	Vehicles	772
Foundations	Equipment	206
	Vehicles	15
Total (metric tons/year)		5,106
<b>Second Year (metric tons/year)</b>		
Turbine and Transformer Installation	Equipment	594
	Vehicles	2,609
Substation and O&M Building Installation	Equipment	172
	Vehicles	370
Underground Collector System	Equipment	328
	Vehicles	17
Overhead Collection System	Equipment	292
	Vehicles	12
	Helicopter	109
Transmission Line Connection	Equipment	70
	Vehicles	2
	Helicopter	22
Substation Aggregate and Security Fence	Equipment	2
	Vehicles	86
Total (metric tons/year)		4,687
Water Use	Const.	17
<b>Grand Total (metric tons)</b>		<b>9,809</b>
<b>Amortized Total (40 years)</b>		<b>245</b>

\*Equipment emissions from the on-site concrete batch plant have been subtracted out of the total emissions for the worst-case scenario of trucking concrete to the site.

### Greenhouse Gas Operation Emissions

Source	CO2e
Commuting Workers	137
Emergency Generator Testing	10
O&M Building*	17
SF6 Circuit Breakers	52
Water Use	5
Maintenance with Cranes and Mowers	96
Total (metric tons/year)	318

\*O&M building would be 5,460 sf; assumes 2.5759 MT CO2e for electricity consumption for every 1,000 sf and 0.6236 MT CO2e for waste (see CalEMod Year two output).

Water-related GHG Emissions (construction based on ratio from CalEEMod operations)

Source	Mil Gal	GHG	GHG/ mil. gal.	GHG
Operations	1.825	5.3682	2.941479452	
Construction	5			15.72225

**Greenhouse Gas Construction Emissions**

Source	CO2e
Amortized Construction, Decommissioning, and Site Reclamation Emissions	490
Total Operational Emissions	318
Total (metric tons/year)	809
Amortized Loss of Carbon Sequestration over 40 Years	1,977
Displaced use of traditional energy source per year	-227,917
<b>Total Net Emissions</b>	<b>-225,131</b>

**Vehicle Trip Emissions for First Year Construction (tons/year)**

Phase	tons/year				metric tons/year			
	ROG	NOx	PM10	PM2.5	CO2	CH4	N2O	CO2e
Timber Removal and Grubbing	0.15	2.09	0.06	0.04	526.05	0.01	0.08	550.23
Grading and Access Road Work	0.18	1.67	0.10	0.05	719.16	0.01	0.07	739.97
Concrete Batch Plants	0.20	2.87	0.09	0.06	737.47	0.01	0.11	771.68
Foundations	0.01	0.01	0.00	0.00	14.91	0.00	0.00	15.08

Notes: Global Warming Potential for CH4 = 25; GWP for N2O = 298.

**Vehicle Trip Emissions for First Year Construction (pounds/day)**

Phase	ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	3.65	52.31	0.90	0.29
Grading and Access Road Work	3.64	43.20	1.97	1.17
Concrete Batch Plants	1.53	19.42	0.58	0.38
Foundations	0.32	0.19	0.07	0.03

EMFAC2017 (v1.0.2) Emission Rates

Region Type: County

Region: SHASTA

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Year	Vehicle Categ	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	ROG_RUNLO	ROG_RESTL	ROG_DIURN	NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	PM10_RUNE	PM10_IDLEX	PM10_STREX	PM10_PMTW	PM10_PMBW	PM2_5_RUNE	PM2_5_IDLE	PM2_5_STRE	PM2_5_PMTW	PM2_5_PMBW	N2O_RUNEX	N2O_IDLEX	N2O_STREX	
SHASTA	2021	LDT1	Aggregated	Aggregated	GAS	10339.78041	383046.9123	47282.36511	0.026371956	0	0.417621252	0.224995441	0.791530076	0.452898801	0.679320318	0.107966722	0	0.29295258	326.132945	0	67.65712755	0.006004925	0	0.082242647	0.002164078	0	0.002690654	0.008000002	0.036750011	0.001989994	0	0.002474308	0.002000001	0.015750005	0.008297241	0	0.031242777	
SHASTA	2021	T7 single cons	Aggregated	Aggregated	DSL	303.8169793	21362.3418	1373.544751	0.426036513	1.57802503	0	0	0	0	0	6.53639655	22.67282546	3.516604753	1859.782655	3917.791879	0	0.019788293	0.073295176	0	0.115258911	0.032354446	0	0.036000001	0.061740018	0.110272862	0.030954807	0	0.009000003	0.026460008	0.292331934	0.615822325	0	

**2021 Construction Vehicle Emissions**

**Running Emissions**

Running Emission Factors (grams/mile)	Vehicle Type	ROG	Nox	PM10	PM10TW	PM10BW	PM10Tot	PM2.5	PM2.5TW	PM2.5BW	PM2.5Tot	CO2	CH4	N2O
worker	LDT1	0.03	0.11	0.00	0.01	0.04	0.05	0.00	0.00	0.02	0.02	326.13	0.01	0.01
Haul	T7 sc	0.43	6.54	0.12	0.04	0.06	0.21	0.11	0.01	0.03	0.15	1,859.78	0.02	0.29

Workers	Trips/day	Trip Length	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	64	10	80	0.00	0.01	0.00	0.00	16.70	0.00	0.00
Grading and Access Road Work	130	50	160	0.03	0.12	0.05	0.02	339.18	0.01	0.01
Concrete Batch Plants	64	10	70	0.00	0.01	0.00	0.00	14.61	0.00	0.00
Foundations	64	10	70	0.00	0.01	0.00	0.00	14.61	0.00	0.00

Workers	Trips/day	Trip Length	pounds/day			
			ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	64	10	0.04	0.15	0.07	0.03
Grading and Access Road Work	130	50	0.38	1.55	0.67	0.28
Concrete Batch Plants	64	10	0.04	0.15	0.07	0.03
Foundations	64	10	0.04	0.15	0.07	0.03

Haul Trucks	Trips	Trip Length	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	13,000	20	0.12	1.87	0.06	0.04	483.54	0.01	0.08
Grading and Access Road Work	8,830	22	0.09	1.40	0.05	0.03	361.28	0.00	0.06
Concrete Batch Plants	7,610	50	0.18	2.74	0.09	0.06	707.65	0.01	0.11
Foundations	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

46.83342

Haul Trucks	Trips	Days	Trips/day	Trip Length	pounds/day			
					ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	13,000	80	163	20	3.05	46.83	0.83	0.26
Grading and Access Road Work	8,830	160	55	50	2.59	39.76	1.30	0.89
Concrete Batch Plants	7,610	70	109	10	1.02	15.67	0.51	0.35
Foundations	0	70	0	10	0.00	0.00	0.00	0.00

**Start-Up Emission**

Start-Up Emission Factors (gram/trip)	Vehicle Type	ROG ST	ROG HOT	ROG Loss	ROG Tot.	NOx	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.42	0.22	0.79	1.43	0.29	0.00	0.00	67.66	0.08	0.03
Haul	T7 sc	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00

Workers	Trips/day	Days	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	64	80	0.01	0.00	0.00	0.00	0.35	0.00	0.00
Grading and Access Road Work	130	160	0.03	0.01	0.00	0.00	1.41	0.00	0.00
Concrete Batch Plants	64	70	0.01	0.00	0.00	0.00	0.30	0.00	0.00
Foundations	64	70	0.01	0.00	0.00	0.00	0.30	0.00	0.00



Workers	Trips/day	pounds/day			
		ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	64	0.20	0.00	0.00	0.00
Grading and Access Road Work	130	0.41	0.08	0.00	0.00
Concrete Batch Plants	64	0.20	0.04	0.00	0.00
Foundations	64	0.20	0.04	0.00	0.00

Haul Trucks	Trips/day	Days	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	163	80	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Grading and Access Road Work	55	160	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plants	109	70	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Foundations	0	70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Haul Trucks	Trips	Days	Trips/day	pounds/day			
				ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	13,000	80	163	0.00	1.26	0.00	0.00
Grading and Access Road Work	8,830	160	55	0.00	0.43	0.00	0.00
Concrete Batch Plants	7,610	70	109	0.00	0.84	0.00	0.00
Foundations	0	70	0	0.00	0.00	0.00	0.00

**Idling Emissions**

Idling Emission Factors (g/vehicle/day)	Vehicle Type	ROG Idle	ROG Rest	ROG Di	ROG Tot.	Nox	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.00	0.45	0.68	1.13	0.00	0.00	0.00	0.00	0.00	0.00
Haul	T7 sc	1.58	0.00	0.00	1.58	22.67	0.03	0.03	3,917.79	0.07	0.62

Workers	Trips/day	Veh./day	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	64	32	80	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading and Access Road Work	130	65	160	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Concrete Batch Plants	64	32	70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Foundations	64	32	70	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Workers	Trips/day	Veh./day	pounds/day			
			ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	64	32	0.08	0.00	0.00	0.00
Grading and Access Road Work	130	65	0.16	0.00	0.00	0.00
Concrete Batch Plants	64	32	0.08	0.00	0.00	0.00
Foundations	64	32	0.08	0.00	0.00	0.00

Haul Trucks	Trips	Vehicles	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Timber Removal and Grubbing	13,000	6500	0.01	0.16	0.00	0.00	25.47	0.00	0.00
Grading and Access Road Work	8,830	4415	0.01	0.11	0.00	0.00	17.30	0.00	0.00
Concrete Batch Plants	7,610	3805	0.01	0.10	0.00	0.00	14.91	0.00	0.00
Foundations	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Haul Trucks	Trips	Vehicles	Days	Veh./day	pounds/day			
					ROG	NOx	PM10	PM2.5
Timber Removal and Grubbing	13,000	6500	80	81.25	0.28	4.06	0.01	0.01
Grading and Access Road Work	8,830	4415	160	27.59	0.10	1.38	0.00	0.00
Concrete Batch Plants	7,610	3805	70	54.36	0.19	2.72	0.00	0.00
Foundations	0	0	70	0.00	0.00	0.00	0.00	0.00

**Vehicle Trip Emissions for Second Year of Construction (tons/year)**

Phase	tons/year				metric tons/year			
	ROG	NOx	PM10	PM2.5	CO2	CH4	N2O	CO2e
Turbine and Transformer Installation*	0.28	9.61	0.22	0.12	2,492.69	0.01	0.39	2609.30
Substation and O&M Building Installation	0.07	0.47	0.06	0.02	365.73	0.01	0.01	369.97
Underground Collector System	0.01	0.01	0.00	0.00	17.28	0.00	0.00	17.46
Overhead Collection System	0.01	0.01	0.00	0.00	12.34	0.00	0.00	12.47
Transmission Line Connection	0.00	0.00	0.00	0.00	2.47	0.00	0.00	2.49
Substation Aggregate and Security Fence	0.01	0.39	0.01	0.00	82.09	0.00	0.01	85.87

Notes: Global Warming Potential for CH4 = 25; GWP for N2O = 298.

**\*Breakdown of turbine delivery emissions by Jurisdictions along route from Port of Stockton**

County	miles	% trip	tons/year				metric tons/year				Air District	Threshold
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O	CO2e		
Shasta County	73	27%	0.08	2.60	0.06	0.03	673.95	0.00	0.11	705.48	AQMD	NA
Tehama	41	15%	0.04	1.46	0.03	0.02	378.52	0.00	0.06	396.23	TCAPCD	NA
Glenn	29	11%	0.03	1.03	0.02	0.01	267.73	0.00	0.04	280.26	GCAPCD	NA
Colusa	33	12%	0.03	1.17	0.03	0.01	304.66	0.00	0.05	318.91	CCAPCD	NA
Yolo Solano	77	29%	0.08	2.74	0.06	0.03	710.88	0.00	0.11	744.13	YSAQMD	10
Sacramento Metro	14	5%	0.01	0.50	0.01	0.01	129.25	0.00	0.02	135.30	SMAQMD	NA
San Joaquin Valley	3	1%	0.00	0.11	0.00	0.00	27.70	0.00	0.00	28.99	SJVAPCD	10
<b>Total</b>	<b>270</b>	<b>100%</b>	<b>0.28</b>	<b>9.61</b>	<b>0.22</b>	<b>0.12</b>	<b>2,492.69</b>	<b>0.01</b>	<b>0.39</b>	<b>2,609.30</b>		

Significance thresholds obtain from TCAPCD, 2015; YSAQMD, 2007; SMAQMD, 2015; and SJVAPCD, 2015 (See EIR Section 3.3.5, References). GCAPMD and CCAPCD have not posted adopted

**Vehicle Trip Emissions for Second Year of Construction (pounds/day)**

Phase	ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation*	5.68	145.76	4.35	2.38
Substation and O&M Building Installation	0.90	2.68	0.71	0.30
Underground Collector System	0.17	0.10	0.04	0.02
Overhead Collection System	0.17	0.10	0.04	0.02

**\*Breakdown of turbine delivery emissions by Jurisdictions along route from Port of Stockton**

Air District	miles	% trip	pounds/day			
			ROG	NOx	PM10	PM2.5
Shasta County	73	27%	1.54	39.41	1.18	0.64
Tehama	41	15%	0.86	22.13	0.66	0.36
Glenn	29	11%	0.61	15.66	0.47	0.26
Colusa	33	12%	0.69	17.82	0.53	0.29
Yolo Solano	77	29%	1.62	41.57	1.24	0.68
Yolo Solano (tons/yr)			0.08	2.08	0.06	0.03
Sacramento Metro	14	5%	0.29	7.56	0.23	0.12
San Joaquin Valley	3	1%	0.06	1.62	0.05	0.03
San Joaquin Valley (tons/yr)			0.00	0.08	0.00	0.00
<b>Total</b>	<b>270</b>	<b>100%</b>	<b>5.68</b>	<b>145.76</b>	<b>4.35</b>	<b>2.38</b>

Significance thresholds obtain from TCAPCD, 2015; YSAQMD, 2007; SMAQMD, 2015; and SJVAPCD, 2015 (See EIR Section 3.3.5, References). GCAPMD and CCAPCD have not posted adopted

\*Levels A

**EMFAC2017 (v1.0.2) Emission Rates**

Region Type: County

Region: SHASTA

Calendar Year: 2022

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOT	ROG_RUNI	ROG_REST	ROG_DIUR	NOx_RUNE	NOx_IDLEX	NOx_STRE	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	PM10_RUNI	PM10_IDLI	PM10_STR	PM10_PM	PM10_PMI	PM2_5_RL	PM2_5_IDI	PM2_5_ST	PM2_5_PN	PM2_5_PN	N2O_RUNI	N2O_IDLE	N2O_STRE	
SHASTA	2022	LDT1	Aggregate	Aggregate	GAS	10533.89	387184.9	48221.65	0.022618	0	0.377791	0.209233	0.739262	0.422366	0.62483	0.093709	0	0.272487	318.2334	0	65.97357	0.005219	0	0.075566	0.002015	0	0.002509	0.008	0.03675	0.001853	0	0.002307	0.002	0.01575	0.007484	0	0.030088	
SHASTA	2022	T7	single	Aggregate	Aggregate	DSL	317.811	22201.17	1436.811	0.178471	1.584216	0	0	0	0	0	4.742355	21.41237	3.986891	1793.763	4085.246	0	0.00829	0.073583	0	0.044225	0.013174	0	0.036	0.06174	0.042312	0.012604	0	0.009	0.02646	0.281955	0.642144	0

**2021 Construction Vehicle Emissions**

**Running Emissions**

Running Emission Factors (grams/mile)	Vehicle Type	ROG	Nox	PM10	PM10TW	PM10BW	PM10Tot	PM2.5	PM2.5TW	PM2.5BW	PM2.5Tot	CO2	CH4	N2O
worker	LDT1	0.02	0.09	0.00	0.01	0.04	0.05	0.00	0.00	0.02	0.02	318.23	0.01	0.01
Haul	T7 sc	0.18	4.74	0.04	0.04	0.06	0.14	0.04	0.01	0.03	0.08	1,793.76	0.01	0.28

Workers	Trips/day	Trip Length	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	38	10	100	0.00	0.00	0.00	0.00	12.09	0.00	0.00
Substation and O&M Building Installation	130	50	160	0.03	0.11	0.05	0.02	330.96	0.01	0.01
Underground Collector System	38	10	140	0.00	0.01	0.00	0.00	16.93	0.00	0.00
Overhead Collection System	38	10	100	0.00	0.00	0.00	0.00	12.09	0.00	0.00
Transmission Line Connection	38	10	20	0.00	0.00	0.00	0.00	2.42	0.00	0.00
Substation Aggregate and Security Fence	38	10	15	0.00	0.00	0.00	0.00	1.81	0.00	0.00

Workers	Trips/day	Trip Length	pounds/day			
			ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	38	10	0.02	0.08	0.04	0.02
Substation and O&M Building Installation	130	50	0.32	1.34	0.67	0.28
Underground Collector System	38	10	0.02	0.08	0.04	0.02
Overhead Collection System	38	10	0.02	0.08	0.04	0.02

Haul Trucks	Trips	Trip Length	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	5336	258	0.27	7.20	0.22	0.12	2,469.45	0.01	0.39
Substation and O&M Building Installation	364	50	0.00	0.10	0.00	0.00	32.65	0.00	0.01
Underground Collector System	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Collection System	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line Connection	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation Aggregate and Security Fence	2116	20	0.01	0.22	0.01	0.00	75.91	0.00	0.01

Haul Trucks	Trips	Days	Trips/day	Trip Length	pounds/day			
					ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	5336	100	53	258	5.42	143.93	4.31	2.36
Substation and O&M Building Installation	364	160	2	50	0.04	1.19	0.04	0.02
Underground Collector System	0	140	0	20	0.00	0.00	0.00	0.00
Overhead Collection System	0	100	0	20	0.00	0.00	0.00	0.00

**Start-Up Emission**

Start-Up Emission Factors (gram/trip)	Vehicle Type	ROG ST	ROG HOT	ROG Loss	ROG Tot.	NOx	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.38	0.21	0.74	1.33	0.27	0.00	0.00	65.97	0.08	0.03
Haul	T7 sc	0.00	0.00	0.00	0.00	3.99	0.00	0.00	0.00	0.00	0.00

Workers	Trips/day	Days	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	38	100	0.01	0.00	0.00	0.00	0.25	0.00	0.00
Substation and O&M Building Installation	130	160	0.03	0.01	0.00	0.00	1.37	0.00	0.00
Underground Collector System	38	140	0.01	0.00	0.00	0.00	0.35	0.00	0.00
Overhead Collection System	38	100	0.01	0.00	0.00	0.00	0.25	0.00	0.00
Transmission Line Connection	38	20	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Substation Aggregate and Security Fence	38	15	0.00	0.00	0.00	0.00	0.04	0.00	0.00

Workers	Trips/day	pounds/day			
		ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	38	0.11	0.02	0.00	0.00
Substation and O&M Building Installation	130	0.38	0.08	0.00	0.00
Underground Collector System	38	0.11	0.02	0.00	0.00
Overhead Collection System	38	0.11	0.02	0.00	0.00

Haul Trucks	Trips/day	Days	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	5336	100	0.00	2.35	0.00	0.00	0.00	0.00	0.00
Substation and O&M Building Installation	364	160	0.00	0.26	0.00	0.00	0.00	0.00	0.00
Underground Collector System	0	140	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Collection System	0	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line Connection	0	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation Aggregate and Security Fence	2116	15	0.00	0.14	0.00	0.00	0.00	0.00	0.00

Haul Trucks	Trips	Days	Trips/day	pounds/day			
				ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	5336	100	53	0.00	0.47	0.00	0.00
Substation and O&M Building Installation	364	160	2	0.00	0.02	0.00	0.00
Underground Collector System	0	140	0	0.00	0.00	0.00	0.00
Overhead Collection System	0	100	0	0.00	0.00	0.00	0.00

**Idling Emissions**

Idling Emission Factors (g/vehicle/day)	Vehicle Type	ROG Idle	ROG Res	ROG Di	ROG Tot.	Nox	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.00	0.42	0.62	1.05	0.00	0.00	0.00	0.00	0.00	0.00
Haul	T7 sc	1.58	0.00	0.00	1.58	21.41	0.01	0.01	4,085.25	0.07	0.64

Workers	Trips/day	Veh./day	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	38	19	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation and O&M Building Installation	130	65	160	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Underground Collector System	38	19	140	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Collection System	38	19	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line Connection	38	19	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation Aggregate and Security Fence	38	19	15	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Workers	Trips/day	Veh./day	pounds/day			
			ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	38	19	0.04	0.00	0.00	0.00
Substation and O&M Building Installation	130	65	0.15	0.00	0.00	0.00
Underground Collector System	38	19	0.04	0.00	0.00	0.00
Overhead Collection System	38	19	0.04	0.00	0.00	0.00

Haul Trucks	Trips	Vehicles	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Turbine and Transformer Installation	5336	2668	0.00	0.06	0.00	0.00	10.90	0.00	0.00
Substation and O&M Building Installation	364	182	0.00	0.00	0.00	0.00	0.74	0.00	0.00
Underground Collector System	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Collection System	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transmission Line Connection	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Substation Aggregate and Security Fence	2116	1058	0.00	0.02	0.00	0.00	4.32	0.00	0.00

Haul Trucks	Trips	Vehicles	Days	Veh./day	pounds/day			
					ROG	NOx	PM10	PM2.5
Turbine and Transformer Installation	5336	2668	100	26.68	0.09	1.26	0.00	0.00
Substation and O&M Building Installation	364	182	160	1.14	0.00	0.05	0.00	0.00
Underground Collector System	0	0	140	0.00	0.00	0.00	0.00	0.00
Overhead Collection System	0	0	100	0.00	0.00	0.00	0.00	0.00

**Vehicle Trip Emissions for Operations (tons/year)**

Phase	tons/year				metric tons/year			
	ROG	NOx	PM10	PM2.5	CO2	CH4	N2O	CO2e
Worker Trips	0.03	0.04	0.02	0.01	136.46	0.00	0.00	137.48

Notes: Global Warming Potential for CH4 = 25; GWP for N2O = 298.

**Vehicle Trip Emissions for Operations (pounds/day)**

Phase	ROG	NOx	PM10	PM2.5
Worker Trips	0.14	0.23	0.12	0.05

EMFAC2017 (v1.0.2) Emission Rates

Region Type: County

Region: SHASTA

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2011 Categories

Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Populatio	VMT	Trips	ROG_RUN	ROG_IDLE	ROG_STRE	ROG_HOT	ROG_RUN	ROG_REST	ROG_DIUF	NOx_RUNI	NOx_IDLE	NOx_STRE	CO2_RUNI	CO2_IDLE	CO2_STRE	CH4_RUNI	CH4_IDLE	CH4_STRE	PM10_RUI	PM10_IDL	PM10_STF	PM10_PM	PM10_PM	PM2_5_RI	PM2_5_ID	PM2_5_ST	PM2_5_P1	PM2_5_P1	N2O_RUN	N2O_IDLE	N2O_STREX
SHASTA	2023	LDT1	Aggregate	Aggregate	GAS	10732.28	391228.5	49162.33	0.019463	0	0.342403	0.194831	0.693175	0.395406	0.577125	0.081691	0	0.253867	310.2552	0	64.32045	0.004552	0	0.069523	0.001887	0	0.002356	0.008	0.03675	0.001735	0	0.002166	0.002	0.01575	0.006788	0	0.028961

**2023 Vehicle Emissions**

**Running Emissions**

Running Emission Factors (grams/mile)	Vehicle Type	ROG	Nox	PM10	PM10TW	PM10BW	PM10Tot	PM2.5	PM2.5TW	PM2.5BW	PM2.5Tot	CO2	CH4	N2O
worker	LDT1	0.02	0.08	0.00	0.01	0.04	0.05	0.00	0.00	0.02	0.02	310.26	0.00	0.01

Source	Trips/day	Trip Length	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
Worker Trips	24	50	365	0.01	0.04	0.02	0.01	135.89	0.00	0.00

Source	Trips/day	Trip Length	pounds/day			
			ROG	NOx	PM10	PM2.5
Workers	24	50	0.05	0.22	0.12	0.05

**Start-Up Emission**

Start-Up Emission Factors (gram/trip)	Vehicle Type	ROG ST	ROG HOT	ROG Loss	ROG Tot.	NOx	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.34	0.19	0.69	1.23	0.25	0.00	0.00	64.32	0.07	0.03

Source	Trips/day	Days	tons/year				metric tons/year		
			ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
workers	24	365	0.01	0.00	0.00	0.00	0.56	0.00	0.00

Source	Trips/day	pounds/day			
		ROG	NOx	PM10	PM2.5
workers	24	0.07	0.01	0.00	0.00

**Idling Emissions**

Idling Emission Factors (g/vehicle/day)	Vehicle Type	ROG Idle	ROG Rest	ROG Di	ROG Tot.	Nox	PM10	PM2.5	CO2	CH4	N2O
worker	LDT1	0.00	0.40	0.58	0.97	0.00	0.00	0.00	0.00	0.00	0.00

Source	Trips/day	Veh./day	Days	tons/year				metric tons/year		
				ROG	NOx	PM10	PM2.5	CO2	CH4	N2O
workers	24	12	365	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source	Trips/day	Veh./day	pounds/day			
			ROG	NOx	PM10	PM2.5
workers	24	12	0.03	0.00	0.00	0.00

**Fountain Wind Project Construction Assumptions**

Phase	workdays/ week	Total number of Work Days	Year of activity	Equipment	Units	Hour/day
Timber Removal and Grubbing	6	80	Year 1	Feller Buncher (logging)	2	8
				Logging Trucks	8	8
				Skidder	2	8
				Pickups	8	8
				Hydro Axe	2	8
Grading and Access Road Work	6	160	Year 1	Road Grader	3	8
				Scraper	4	8
				Bulldozer (medium)	6	8
				Drum Compactor	4	8
				Rock Trucks	8	8
				Pickups	16	8
Concrete Batch Plants	6	70	Year 1	Concrete Pump Truck	2	8
				Mixer	10	8
				Generator	3	8
				Skid Steer Loader	3	8
				Pickups	6	8
				Water Truck	3	8
Turbine, Transformer, Substation, and O&M Foundations	6	70	Year 1	Excavator	3	8
				Bulldozer (medium)	3	8
				Drum Compactor	4	8
				Skid Steer Loader	3	8
				Pickups	10	8
Turbine and Transformer Installation	6	100	Year 2	Mobile Hydraulic Crane	6	4
				Bulldozer (medium)	2	8
				Rubber Tired Forklifts	10	8
				Large Crawler Crane	4	8
				Pickups	20	8
				Turbine Delivery Vehicles	8	8
Substation and O&M Building Installation	6	160	Year 2	Mobile Hydraulic Crane	2	4
				Skid Steer Loader	2	8
				Pickups	8	8
				Rubber Tired Forklift	3	8
Underground Collector System	6	140	Year 2	Trenching Equipment	4	8
				Rubber Tired Forklift	4	8
				Pickups	12	8
				Bulldozer (medium)	1	8
				Skid Steer Loader	4	8
Overhead Collection System	6	100	Year 2	Backhoe Loader (includes	4	8
				Cable Reel Truck (include	3	8
				Mobile Hydraulic Crane	2	4
				Pickups	10	8
				Bulldozer (medium)	1	8
Substation Aggregate and Security Fence	6	15	Year 2	Boom Lift	6	4
				Skid Steer Loader	1	8

**Fountain Wind Project Construction Assumptions**

Phase	workdays/ week	Total number of Work Days	Year of activity	Equipment	Units	Hour/day
Transmission Line Connection	6	20	Year 2	Mobile Hydraulic Crane	6	4
				Cable Reel Truck (include	4	8
				Boom Lift	6	4
				Pickups	8	8
				Bulldozer (medium)	1	8
				Excavator	2	8

\*It is assumed construction would occur over a period of two years, but no work would occur during the winter months (i.e., January 1st through March 31st).

**Volume for material handling estimates for turbine and transformer Foundations**

feet	feet	feet	cf	cy	foundations
80	80	15	96000	3,556	72

**Water use for operations**

gallons/day	days	gallons/year
5000	365	1,825,000

**Worker Trips**

	Workers	Trucks	Trips	miles/trip	VMT
From Traffic Report	Total Pickup Trucks	20,650	41,300	50	<b>2,065,000</b>
	Total Pickup Trucks	13,767	27,534	10	<b>275,340</b>

Workers	Trips	miles/trip	miles/trip	VMT	Days/phase	% days	Trips per day*	VMT Proof	Notes
Total 2021	20,650	50	50	1,032,500	160	100%	129.1	1,032,500	Phase 2
	13,767	10	10	137,670	80	36%	62.6	50,062	Phase 1
					70	32%	62.6	43,804	Phase 3
					70	32%	62.6	43,804	Phase 4
<b>Total</b>					220				
Total 2022	20,650	50	50	1,032,500	160	100%	129.1	1,032,500	Phase 2
	13,767	10	10	137,670	100	27%	36.7	36,712	Phase 1
					140	37%	36.7	51,397	Phase 3
					100	27%	36.7	36,712	Phase 4
					20	5%	36.7	7,342	Phase 5
					15	4%	36.7	5,507	Phase 6
<b>Total</b>					375	1		<b>2,340,340</b>	

**Truck Trips**

	Source	Trucks	Trips	miles/trip	VMT	traffic report	Revised	Days/phase	Trips per day*	miles/trip	VMT Proof	
Requested information	Logging	6,500	13,000	20			260,000	80	163	20	260,000	Phase 1 - Year 1
From Traffic Report	Construction Equipme	58	116		2,740	5,480		160	1	47	5,480	Phase 2 - Year 1
	Aggregate	3,019	6,038		60,370	120,740		160	38	20	120,740	Phase 2 - Year 1
	Aggregate rocks and c	1,058	2,116		21,165	42,330		15	141	20	42,330	Phase 6 - Year 2
	Turbine Deliveries	2,668	5,336		687,947	1,375,894		100	53	258	1,375,894	Phase 1 - Year 2
	Concrete Deliveries	3,805	7,610		190,250	380,500		70	109	50	380,500	Phase 3 - Year 1
	Miscellaneous	182	364		9,093	18,186		160	2	50	18,186	Phase 2 - Year 2
	Water	1,338	2,676		26,760	53,520		160	17	20	53,520	Phase 2 - Year 1

2,256,650

Phase 2 - year 1 combined      WMT 179,740      Trips 8830      miles/trip 20.35560589

Total VMT 4,596,990



**Worker Trucks Dirt Road Travel**

	miles/trip	Dirt road travel	% dirt road	% paved road
<b>Year 1</b>				
Phase 1	10	3.25	33%	68%
Phase 2	50	3.25	7%	94%
Phase 3	10	3.25	33%	68%
Phase 4	10	3.25	33%	68%
<b>Year 2</b>				
Phase 1	10	3.25	33%	68%
Phase 2	50	3.25	7%	94%
Phase 3	10	3.25	33%	68%
Phase 4	10	3.25	33%	68%
Phase 5	10	3.25	33%	68%
Phase 6	10	3.25	33%	68%

Workers would park at the O&M site or at one of the laydown/staging areas. The O&M site is approximately 0.5 mile from the highway and the various staging areas are estimated to average 6 miles from the highway.  $(6 \text{ miles} + .5 \text{ mile})/2$

**Haul Trucks Dirt Road Travel**

	miles/trip	Dirt road travel	% dirt road	% paved road
<b>Year 1</b>				
Phase 1	20	6	30%	70%
Phase 2	22	6	27%	73%
Phase 3	50	6	12%	88%
Phase 4	0	0	0%	100%
<b>Year 2</b>				
Phase 1	258	6	2%	98%
Phase 2	50	6	12%	88%
Phase 3	0	0	0%	100%
Phase 4	0	0	0%	100%
Phase 5	0	0	0%	100%
Phase 6	20	6	30%	70%

Average dirt road travel for haul trucks is based on the distance from Highway 299 to the Substation, which is approximately at the center of the site.

**Jurisdictions along route from Port of Stockton**

County	miles	% trip
Shasta County	65	25%
Tehama	41	16%
Glenn	29	11%
Colusa	33	13%
Yolo Solano	91	35%
Total	259	100%

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**Fountain Wind Project - First Year of Construction  
Shasta County, Summer**

**1.0 Project Characteristics**

---

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.7	<b>Precipitation Freq (Days)</b>	82
<b>Climate Zone</b>	3			<b>Operational Year</b>	2023
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Fountain Wind Project - First Year of Construction - Shasta County, Summer

Project Characteristics -

Land Use - Land Use data entered for purposes for setting up the model; the assumptions were not used for default construction or operational values.

Construction Phase - Construction equipment assumptions obtained from the applicant.

Off-road Equipment - Equipment assumptions are based on Applicant provided information.

Off-road Equipment - Construction equipment and unit amounts provided by the applicant.

Off-road Equipment - Equipment assumptions obtained from applicant.

Off-road Equipment - 0

Off-road Equipment - Other Material Handling Equipment with 270 hps represent Feller Buncher and Hydro-ax. hp based on John Deere website.

Trips and VMT - Based on "Westwood 2020\_0203\_Fountain Wind Spreadsheet\_Revised by ESA" and requested information, adjusted for construction equipment phases.

On-road Fugitive Dust - See Air Quality Emission Estimate Assumptions.

Grading - Total area construction disturbance area obtained from Project Description Table 2-1. Material exported represents volume for 72 turbine foundations.

Construction Off-road Equipment Mitigation - Percent reduction for soil stabilizer for unpaved roads obtained from South Coast AQMD Table XI-D

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	27.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Fountain Wind Project - First Year of Construction - Shasta County, Summer

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	2.00	160.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	NumDays	1.00	70.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	AcresOfGrading	880.00	1,384.00
tblGrading	MaterialExported	0.00	256,000.00
tblOffRoadEquipment	HorsePower	168.00	270.00
tblOffRoadEquipment	HorsePower	168.00	270.00
tblOffRoadEquipment	HorsePower	65.00	280.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOnRoadDust	HaulingPercentPave	100.00	70.00
tblOnRoadDust	HaulingPercentPave	100.00	73.00
tblOnRoadDust	HaulingPercentPave	100.00	88.00

Fountain Wind Project - First Year of Construction - Shasta County, Summer

tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	94.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	13,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,830.00
tblTripsAndVMT	HaulingTripNumber	32,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	7,610.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripNumber	35.00	64.00
tblTripsAndVMT	WorkerTripNumber	78.00	130.00
tblTripsAndVMT	WorkerTripNumber	40.00	64.00
tblTripsAndVMT	WorkerTripNumber	0.00	64.00

**2.0 Emissions Summary**

---



Fountain Wind Project - First Year of Construction - Shasta County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
Mobile	4.2400e-003	0.0279	0.0452	1.9000e-004	0.0124	1.4000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		19.0991	19.0991	8.1000e-004		19.1194
<b>Total</b>	<b>0.0326</b>	<b>0.0335</b>	<b>0.0500</b>	<b>2.2000e-004</b>	<b>0.0124</b>	<b>5.7000e-004</b>	<b>0.0130</b>	<b>3.3300e-003</b>	<b>5.7000e-004</b>	<b>3.9000e-003</b>		<b>25.8262</b>	<b>25.8262</b>	<b>9.4000e-004</b>	<b>1.2000e-004</b>	<b>25.8864</b>

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
Mobile	4.2400e-003	0.0279	0.0452	1.9000e-004	0.0124	1.4000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		19.0991	19.0991	8.1000e-004		19.1194
<b>Total</b>	<b>0.0326</b>	<b>0.0335</b>	<b>0.0500</b>	<b>2.2000e-004</b>	<b>0.0124</b>	<b>5.7000e-004</b>	<b>0.0130</b>	<b>3.3300e-003</b>	<b>5.7000e-004</b>	<b>3.9000e-003</b>		<b>25.8262</b>	<b>25.8262</b>	<b>9.4000e-004</b>	<b>1.2000e-004</b>	<b>25.8864</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Timber Removal and Grubbing	Site Preparation	4/1/2021	7/2/2021	6	80	
2	Grading and Access Road Work	Grading	5/17/2021	11/18/2021	6	160	
3	Foundations	Site Preparation	8/2/2021	10/21/2021	6	70	Turbine, Transformer, Substation, and O&M Foundations
4	Concrete Batch Plants	Building Construction	8/2/2021	10/21/2021	6	70	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

#### OffRoad Equipment



Fountain Wind Project - First Year of Construction - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Timber Removal and Grubbing	Off-Highway Trucks	8	8.00	402	0.38
Timber Removal and Grubbing	Other Material Handling Equipment	2	8.00	270	0.40
Timber Removal and Grubbing	Other Material Handling Equipment	2	8.00	270	0.40
Timber Removal and Grubbing	Skid Steer Loaders	2	8.00	280	0.37
Grading and Access Road Work	Graders	3	8.00	187	0.41
Grading and Access Road Work	Off-Highway Trucks	8	8.00	402	0.38
Grading and Access Road Work	Off-Highway Trucks	6	8.00	402	0.38
Grading and Access Road Work	Rollers	4	8.00	80	0.38
Grading and Access Road Work	Rubber Tired Dozers	6	8.00	247	0.40
Grading and Access Road Work	Scrapers	4	8.00	367	0.48
Foundations	Cranes	3	4.00	231	0.29
Foundations	Excavators	3	8.00	158	0.38
Foundations	Rollers	4	8.00	80	0.38
Foundations	Rubber Tired Dozers	3	8.00	247	0.40
Foundations	Skid Steer Loaders	3	8.00	65	0.37
Concrete Batch Plants	Cement and Mortar Mixers	10	8.00	9	0.56
Concrete Batch Plants	Generator Sets	3	8.00	84	0.74
Concrete Batch Plants	Off-Highway Trucks	2	8.00	402	0.38
Concrete Batch Plants	Off-Highway Trucks	3	8.00	402	0.38
Concrete Batch Plants	Skid Steer Loaders	3	8.00	65	0.37

**Trips and VMT**

Fountain Wind Project - First Year of Construction - Shasta County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Timber Removal and Grubbing	14	64.00	0.00	13,000.00	10.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Access Road Work	31	130.00	0.00	8,830.00	50.00	6.60	22.00	LD_Mix	HDT_Mix	HHDT
Foundations	16	64.00	0.00	0.00	10.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Batch Plants	21	64.00	0.00	7,610.00	10.00	6.60	50.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

**3.2 Timber Removal and Grubbing - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	6.7833	61.9294	39.8208	0.1427		2.3149	2.3149		2.1297	2.1297		13,811.4613	13,811.4613	4.4669		13,923.1339
<b>Total</b>	<b>6.7833</b>	<b>61.9294</b>	<b>39.8208</b>	<b>0.1427</b>	<b>0.0000</b>	<b>2.3149</b>	<b>2.3149</b>	<b>0.0000</b>	<b>2.1297</b>	<b>2.1297</b>		<b>13,811.4613</b>	<b>13,811.4613</b>	<b>4.4669</b>		<b>13,923.1339</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.2 Timber Removal and Grubbing - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1933	40.8514	5.8186	0.1310	1,437.0882	0.1513	1,437.2395	143.8058	0.1447	143.9505		13,722.5246	13,722.5246	0.7038		13,740.1183
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	301.7512	3.3900e-003	301.7546	30.1718	3.1200e-003	30.1749		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>1.4765</b>	<b>41.0167</b>	<b>7.8732</b>	<b>0.1361</b>	<b>1,738.8394</b>	<b>0.1547</b>	<b>1,738.9940</b>	<b>173.9776</b>	<b>0.1478</b>	<b>174.1254</b>		<b>14,232.9230</b>	<b>14,232.9230</b>	<b>0.7204</b>		<b>14,250.9320</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.7504	7.5850	64.1806	0.1427		0.2334	0.2334		0.2334	0.2334	0.0000	13,811.4613	13,811.4613	4.4669		13,923.1339
<b>Total</b>	<b>1.7504</b>	<b>7.5850</b>	<b>64.1806</b>	<b>0.1427</b>	<b>0.0000</b>	<b>0.2334</b>	<b>0.2334</b>	<b>0.0000</b>	<b>0.2334</b>	<b>0.2334</b>	<b>0.0000</b>	<b>13,811.4613</b>	<b>13,811.4613</b>	<b>4.4669</b>		<b>13,923.1339</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.2 Timber Removal and Grubbing - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.1933	40.8514	5.8186	0.1310	231.7836	0.1513	231.9348	23.5317	0.1447	23.6764		13,722.5246	13,722.5246	0.7038		13,740.1183
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	48.5754	3.3900e-003	48.5788	4.9081	3.1200e-003	4.9112		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>1.4765</b>	<b>41.0167</b>	<b>7.8732</b>	<b>0.1361</b>	<b>280.3590</b>	<b>0.1547</b>	<b>280.5136</b>	<b>28.4397</b>	<b>0.1478</b>	<b>28.5876</b>		<b>14,232.9230</b>	<b>14,232.9230</b>	<b>0.7204</b>		<b>14,250.9320</b>

**3.3 Grading and Access Road Work - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					45.3058	0.0000	45.3058	20.8519	0.0000	20.8519			0.0000			0.0000
Off-Road	20.5955	207.7967	115.5296	0.3271		8.5967	8.5967		7.9090	7.9090		31,676.4891	31,676.4891	10.2448		31,932.6095
<b>Total</b>	<b>20.5955</b>	<b>207.7967</b>	<b>115.5296</b>	<b>0.3271</b>	<b>45.3058</b>	<b>8.5967</b>	<b>53.9025</b>	<b>20.8519</b>	<b>7.9090</b>	<b>28.7608</b>		<b>31,676.4891</b>	<b>31,676.4891</b>	<b>10.2448</b>		<b>31,932.6095</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.3 Grading and Access Road Work - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4346	14.6828	2.1303	0.0481	483.2829	0.0561	483.3390	48.3794	0.0537	48.4331		5,041.6184	5,041.6184	0.2405		5,047.6296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.9179	1.4681	18.3064	0.0508	578.6362	0.0310	578.6672	58.5197	0.0286	58.5482		5,063.7705	5,063.7705	0.1553		5,067.6518
<b>Total</b>	<b>2.3525</b>	<b>16.1509</b>	<b>20.4367</b>	<b>0.0990</b>	<b>1,061.9191</b>	<b>0.0871</b>	<b>1,062.0062</b>	<b>106.8991</b>	<b>0.0822</b>	<b>106.9813</b>		<b>10,105.3889</b>	<b>10,105.3889</b>	<b>0.3957</b>		<b>10,115.2814</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					20.3876	0.0000	20.3876	9.3833	0.0000	9.3833			0.0000			0.0000
Off-Road	4.0082	17.3689	150.1845	0.3271		0.5344	0.5344		0.5344	0.5344	0.0000	31,676.4890	31,676.4890	10.2448		31,932.6095
<b>Total</b>	<b>4.0082</b>	<b>17.3689</b>	<b>150.1845</b>	<b>0.3271</b>	<b>20.3876</b>	<b>0.5344</b>	<b>20.9221</b>	<b>9.3833</b>	<b>0.5344</b>	<b>9.9178</b>	<b>0.0000</b>	<b>31,676.4890</b>	<b>31,676.4890</b>	<b>10.2448</b>		<b>31,932.6095</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.3 Grading and Access Road Work - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.4346	14.6828	2.1303	0.0481	78.0363	0.0561	78.0924	7.9409	0.0537	7.9946		5,041.6184	5,041.6184	0.2405		5,047.6296
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.9179	1.4681	18.3064	0.0508	96.5143	0.0310	96.5453	10.4100	0.0286	10.4386		5,063.7705	5,063.7705	0.1553		5,067.6518
<b>Total</b>	<b>2.3525</b>	<b>16.1509</b>	<b>20.4367</b>	<b>0.0990</b>	<b>174.5506</b>	<b>0.0871</b>	<b>174.6377</b>	<b>18.3509</b>	<b>0.0822</b>	<b>18.4332</b>		<b>10,105.3889</b>	<b>10,105.3889</b>	<b>0.3957</b>		<b>10,115.2814</b>

**3.4 Foundations - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.6060	0.0000	18.6060	10.0124	0.0000	10.0124			0.0000			0.0000
Off-Road	5.4305	57.3556	36.5946	0.0664		2.7990	2.7990		2.5751	2.5751		6,437.6913	6,437.6913	2.0821		6,489.7433
<b>Total</b>	<b>5.4305</b>	<b>57.3556</b>	<b>36.5946</b>	<b>0.0664</b>	<b>18.6060</b>	<b>2.7990</b>	<b>21.4050</b>	<b>10.0124</b>	<b>2.5751</b>	<b>12.5875</b>		<b>6,437.6913</b>	<b>6,437.6913</b>	<b>2.0821</b>		<b>6,489.7433</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.4 Foundations - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	301.7512	3.3900e-003	301.7546	30.1718	3.1200e-003	30.1749		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>0.2832</b>	<b>0.1653</b>	<b>2.0547</b>	<b>5.1300e-003</b>	<b>301.7512</b>	<b>3.3900e-003</b>	<b>301.7546</b>	<b>30.1718</b>	<b>3.1200e-003</b>	<b>30.1749</b>		<b>510.3984</b>	<b>510.3984</b>	<b>0.0166</b>		<b>510.8137</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.3727	0.0000	8.3727	4.5056	0.0000	4.5056			0.0000			0.0000
Off-Road	0.8920	6.6902	39.7973	0.0664		0.1088	0.1088		0.1088	0.1088	0.0000	6,437.6913	6,437.6913	2.0821		6,489.7433
<b>Total</b>	<b>0.8920</b>	<b>6.6902</b>	<b>39.7973</b>	<b>0.0664</b>	<b>8.3727</b>	<b>0.1088</b>	<b>8.4815</b>	<b>4.5056</b>	<b>0.1088</b>	<b>4.6143</b>	<b>0.0000</b>	<b>6,437.6913</b>	<b>6,437.6913</b>	<b>2.0821</b>		<b>6,489.7433</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.4 Foundations - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	48.5754	3.3900e-003	48.5788	4.9081	3.1200e-003	4.9112		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>0.2832</b>	<b>0.1653</b>	<b>2.0547</b>	<b>5.1300e-003</b>	<b>48.5754</b>	<b>3.3900e-003</b>	<b>48.5788</b>	<b>4.9081</b>	<b>3.1200e-003</b>	<b>4.9112</b>		<b>510.3984</b>	<b>510.3984</b>	<b>0.0166</b>		<b>510.8137</b>

**3.5 Concrete Batch Plants - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.9158	42.5077	36.3294	0.0991		1.7341	1.7341		1.6471	1.6471		9,367.4770	9,367.4770	2.4096		9,427.7162
<b>Total</b>	<b>4.9158</b>	<b>42.5077</b>	<b>36.3294</b>	<b>0.0991</b>		<b>1.7341</b>	<b>1.7341</b>		<b>1.6471</b>	<b>1.6471</b>		<b>9,367.4770</b>	<b>9,367.4770</b>	<b>2.4096</b>		<b>9,427.7162</b>



Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.5 Concrete Batch Plants - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6657	51.2360	8.4493	0.1951	964.2806	0.2405	964.5211	96.9897	0.2301	97.2198		20,445.5727	20,445.5727	0.5135		20,458.4103
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	301.7512	3.3900e-003	301.7546	30.1718	3.1200e-003	30.1749		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>1.9489</b>	<b>51.4013</b>	<b>10.5040</b>	<b>0.2002</b>	<b>1,266.0318</b>	<b>0.2439</b>	<b>1,266.2757</b>	<b>127.1615</b>	<b>0.2332</b>	<b>127.3947</b>		<b>20,955.9711</b>	<b>20,955.9711</b>	<b>0.5301</b>		<b>20,969.2240</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1583	7.8443	46.5139	0.0991		0.1443	0.1443		0.1443	0.1443	0.0000	9,367.4770	9,367.4770	2.4096		9,427.7162
<b>Total</b>	<b>1.1583</b>	<b>7.8443</b>	<b>46.5139</b>	<b>0.0991</b>		<b>0.1443</b>	<b>0.1443</b>		<b>0.1443</b>	<b>0.1443</b>	<b>0.0000</b>	<b>9,367.4770</b>	<b>9,367.4770</b>	<b>2.4096</b>		<b>9,427.7162</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**3.5 Concrete Batch Plants - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6657	51.2360	8.4493	0.1951	157.9185	0.2405	158.1590	16.5250	0.2301	16.7551		20,445.57 27	20,445.57 27	0.5135		20,458.41 03
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2832	0.1653	2.0547	5.1300e-003	48.5754	3.3900e-003	48.5788	4.9081	3.1200e-003	4.9112		510.3984	510.3984	0.0166		510.8137
<b>Total</b>	<b>1.9489</b>	<b>51.4013</b>	<b>10.5040</b>	<b>0.2002</b>	<b>206.4939</b>	<b>0.2439</b>	<b>206.7378</b>	<b>21.4330</b>	<b>0.2332</b>	<b>21.6663</b>		<b>20,955.97 11</b>	<b>20,955.97 11</b>	<b>0.5301</b>		<b>20,969.22 40</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Fountain Wind Project - First Year of Construction - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2400e-003	0.0279	0.0452	1.9000e-004	0.0124	1.4000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		19.0991	19.0991	8.1000e-004		19.1194
Unmitigated	4.2400e-003	0.0279	0.0452	1.9000e-004	0.0124	1.4000e-004	0.0126	3.3300e-003	1.4000e-004	3.4700e-003		19.0991	19.0991	8.1000e-004		19.1194

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1.50	1.50	1.50	5,795	5,795
Total	1.50	1.50	1.50	5,795	5,795

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.531326	0.031853	0.180854	0.102256	0.028681	0.006074	0.012848	0.095604	0.001329	0.001212	0.005444	0.001276	0.001244

5.0 Energy Detail

Historical Energy Use: N

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
NaturalGas Unmitigated	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	57.1781	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
<b>Total</b>		<b>6.2000e-004</b>	<b>5.6100e-003</b>	<b>4.7100e-003</b>	<b>3.0000e-005</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>6.7268</b>	<b>6.7268</b>	<b>1.3000e-004</b>	<b>1.2000e-004</b>	<b>6.7668</b>

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.0571781	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
<b>Total</b>		<b>6.2000e-004</b>	<b>5.6100e-003</b>	<b>4.7100e-003</b>	<b>3.0000e-005</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>6.7268</b>	<b>6.7268</b>	<b>1.3000e-004</b>	<b>1.2000e-004</b>	<b>6.7668</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Fountain Wind Project - First Year of Construction - Shasta County, Summer

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.0278</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.0278</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**7.0 Water Detail**

## Fountain Wind Project - First Year of Construction - Shasta County, Summer

---

**7.1 Mitigation Measures Water****8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste****9.0 Operational Offroad**

---

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**Fountain Wind Project - First Year of Construction  
Shasta County, Annual**

**1.0 Project Characteristics**

---

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Rural	<b>Wind Speed (m/s)</b>	2.7	<b>Precipitation Freq (Days)</b>	82
<b>Climate Zone</b>	3			<b>Operational Year</b>	2023
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**



Fountain Wind Project - First Year of Construction - Shasta County, Annual

Project Characteristics -

Land Use - Land Use data entered for purposes for setting up the model; the assumptions were not used for default construction or operational values.

Construction Phase - Construction equipment assumptions obtained from the applicant.

Off-road Equipment - Equipment assumptions are based on Applicant provided information.

Off-road Equipment - Construction equipment and unit amounts provided by the applicant.

Off-road Equipment - Equipment assumptions obtained from applicant.

Off-road Equipment - 0

Off-road Equipment - Other Material Handling Equipment with 270 hps represent Feller Buncher and Hydro-ax. hp based on John Deere website.

Trips and VMT - Based on "Westwood 2020\_0203\_Fountain Wind Spreadsheet\_Revised by ESA" and requested information, adjusted for construction equipment phases.

On-road Fugitive Dust - See Air Quality Emission Estimate Assumptions.

Grading - Total area construction disturbance area obtained from Project Description Table 2-1. Material exported represents volume for 72 turbine foundations.

Construction Off-road Equipment Mitigation - Percent reduction for soil stabilizer for unpaved roads obtained from South Coast AQMD Table XI-D

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	27.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

Fountain Wind Project - First Year of Construction - Shasta County, Annual

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	70.00
tblConstructionPhase	NumDays	2.00	160.00
tblConstructionPhase	NumDays	1.00	80.00
tblConstructionPhase	NumDays	1.00	70.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	AcresOfGrading	880.00	1,384.00
tblGrading	MaterialExported	0.00	256,000.00
tblOffRoadEquipment	HorsePower	168.00	270.00
tblOffRoadEquipment	HorsePower	168.00	270.00
tblOffRoadEquipment	HorsePower	65.00	280.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOnRoadDust	HaulingPercentPave	100.00	70.00
tblOnRoadDust	HaulingPercentPave	100.00	73.00
tblOnRoadDust	HaulingPercentPave	100.00	88.00

Fountain Wind Project - First Year of Construction - Shasta County, Annual

tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	94.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripLength	20.00	22.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	13,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	8,830.00
tblTripsAndVMT	HaulingTripNumber	32,000.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	7,610.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripLength	16.80	50.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripLength	16.80	10.00
tblTripsAndVMT	WorkerTripNumber	35.00	64.00
tblTripsAndVMT	WorkerTripNumber	78.00	130.00
tblTripsAndVMT	WorkerTripNumber	40.00	64.00
tblTripsAndVMT	WorkerTripNumber	0.00	64.00

**2.0 Emissions Summary**

---



Fountain Wind Project - First Year of Construction - Shasta County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2021	6-30-2021	9.0986	2.7904
2	7-1-2021	9-30-2021	14.0474	3.4267
		Highest	14.0474	3.4267

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	3.6795	3.6795	1.4000e-004	4.0000e-005	3.6962
Mobile	6.2000e-004	5.1900e-003	7.1700e-003	3.0000e-005	2.1500e-003	3.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.9546	2.9546	1.3000e-004	0.0000	2.9579
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	0.3640	0.4374	7.5500e-003	1.8000e-004	0.6802
<b>Total</b>	<b>5.8000e-003</b>	<b>6.2100e-003</b>	<b>8.0400e-003</b>	<b>4.0000e-005</b>	<b>2.1500e-003</b>	<b>1.1000e-004</b>	<b>2.2600e-003</b>	<b>5.8000e-004</b>	<b>1.0000e-004</b>	<b>6.8000e-004</b>	<b>0.3251</b>	<b>6.9982</b>	<b>7.3232</b>	<b>0.0227</b>	<b>2.2000e-004</b>	<b>7.9579</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	3.6795	3.6795	1.4000e-004	4.0000e-005	3.6962
Mobile	6.2000e-004	5.1900e-003	7.1700e-003	3.0000e-005	2.1500e-003	3.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.9546	2.9546	1.3000e-004	0.0000	2.9579
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	0.3640	0.4374	7.5500e-003	1.8000e-004	0.6802
<b>Total</b>	<b>5.8000e-003</b>	<b>6.2100e-003</b>	<b>8.0400e-003</b>	<b>4.0000e-005</b>	<b>2.1500e-003</b>	<b>1.1000e-004</b>	<b>2.2600e-003</b>	<b>5.8000e-004</b>	<b>1.0000e-004</b>	<b>6.8000e-004</b>	<b>0.3251</b>	<b>6.9982</b>	<b>7.3232</b>	<b>0.0227</b>	<b>2.2000e-004</b>	<b>7.9579</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Fountain Wind Project - First Year of Construction - Shasta County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Timber Removal and Grubbing	Site Preparation	4/1/2021	7/2/2021	6	80	
2	Grading and Access Road Work	Grading	5/17/2021	11/18/2021	6	160	
3	Foundations	Site Preparation	8/2/2021	10/21/2021	6	70	Turbine, Transformer, Substation, and O&M Foundations
4	Concrete Batch Plants	Building Construction	8/2/2021	10/21/2021	6	70	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

## Fountain Wind Project - First Year of Construction - Shasta County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Timber Removal and Grubbing	Off-Highway Trucks	8	8.00	402	0.38
Timber Removal and Grubbing	Other Material Handling Equipment	2	8.00	270	0.40
Timber Removal and Grubbing	Other Material Handling Equipment	2	8.00	270	0.40
Timber Removal and Grubbing	Skid Steer Loaders	2	8.00	280	0.37
Grading and Access Road Work	Graders	3	8.00	187	0.41
Grading and Access Road Work	Off-Highway Trucks	8	8.00	402	0.38
Grading and Access Road Work	Off-Highway Trucks	6	8.00	402	0.38
Grading and Access Road Work	Rollers	4	8.00	80	0.38
Grading and Access Road Work	Rubber Tired Dozers	6	8.00	247	0.40
Grading and Access Road Work	Scrapers	4	8.00	367	0.48
Foundations	Cranes	3	4.00	231	0.29
Foundations	Excavators	3	8.00	158	0.38
Foundations	Rollers	4	8.00	80	0.38
Foundations	Rubber Tired Dozers	3	8.00	247	0.40
Foundations	Skid Steer Loaders	3	8.00	65	0.37
Concrete Batch Plants	Cement and Mortar Mixers	10	8.00	9	0.56
Concrete Batch Plants	Generator Sets	3	8.00	84	0.74
Concrete Batch Plants	Off-Highway Trucks	2	8.00	402	0.38
Concrete Batch Plants	Off-Highway Trucks	3	8.00	402	0.38
Concrete Batch Plants	Skid Steer Loaders	3	8.00	65	0.37

Trips and VMT



Fountain Wind Project - First Year of Construction - Shasta County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Timber Removal and Grubbing	14	64.00	0.00	13,000.00	10.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading and Access Road Work	31	130.00	0.00	8,830.00	50.00	6.60	22.00	LD_Mix	HDT_Mix	HHDT
Foundations	16	64.00	0.00	0.00	10.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Concrete Batch Plants	21	64.00	0.00	7,610.00	10.00	6.60	50.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

- Use Cleaner Engines for Construction Equipment
- Use Soil Stabilizer
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

**3.2 Timber Removal and Grubbing - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2713	2.4772	1.5928	5.7100e-003		0.0926	0.0926		0.0852	0.0852	0.0000	501.1819	501.1819	0.1621	0.0000	505.2342
<b>Total</b>	<b>0.2713</b>	<b>2.4772</b>	<b>1.5928</b>	<b>5.7100e-003</b>	<b>0.0000</b>	<b>0.0926</b>	<b>0.0926</b>	<b>0.0000</b>	<b>0.0852</b>	<b>0.0852</b>	<b>0.0000</b>	<b>501.1819</b>	<b>501.1819</b>	<b>0.1621</b>	<b>0.0000</b>	<b>505.2342</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.2 Timber Removal and Grubbing - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0485	1.6753	0.2465	5.1900e-003	44.5858	6.1200e-003	44.5919	4.4647	5.8500e-003	4.4706	0.0000	493.0610	493.0610	0.0270	0.0000	493.7351
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3200e-003	7.0900e-003	0.0690	1.8000e-004	9.3609	1.4000e-004	9.3611	0.9364	1.2000e-004	0.9366	0.0000	16.5970	16.5970	5.3000e-004	0.0000	16.6102
<b>Total</b>	<b>0.0578</b>	<b>1.6824</b>	<b>0.3155</b>	<b>5.3700e-003</b>	<b>53.9468</b>	<b>6.2600e-003</b>	<b>53.9530</b>	<b>5.4012</b>	<b>5.9700e-003</b>	<b>5.4071</b>	<b>0.0000</b>	<b>509.6580</b>	<b>509.6580</b>	<b>0.0275</b>	<b>0.0000</b>	<b>510.3454</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0700	0.3034	2.5672	5.7100e-003		9.3400e-003	9.3400e-003		9.3400e-003	9.3400e-003	0.0000	501.1813	501.1813	0.1621	0.0000	505.2336
<b>Total</b>	<b>0.0700</b>	<b>0.3034</b>	<b>2.5672</b>	<b>5.7100e-003</b>	<b>0.0000</b>	<b>9.3400e-003</b>	<b>9.3400e-003</b>	<b>0.0000</b>	<b>9.3400e-003</b>	<b>9.3400e-003</b>	<b>0.0000</b>	<b>501.1813</b>	<b>501.1813</b>	<b>0.1621</b>	<b>0.0000</b>	<b>505.2336</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.2 Timber Removal and Grubbing - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0485	1.6753	0.2465	5.1900e-003	7.2049	6.1200e-003	7.2110	0.7346	5.8500e-003	0.7404	0.0000	493.0610	493.0610	0.0270	0.0000	493.7351
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.3200e-003	7.0900e-003	0.0690	1.8000e-004	1.5090	1.4000e-004	1.5092	0.1529	1.2000e-004	0.1530	0.0000	16.5970	16.5970	5.3000e-004	0.0000	16.6102
<b>Total</b>	<b>0.0578</b>	<b>1.6824</b>	<b>0.3155</b>	<b>5.3700e-003</b>	<b>8.7139</b>	<b>6.2600e-003</b>	<b>8.7201</b>	<b>0.8875</b>	<b>5.9700e-003</b>	<b>0.8935</b>	<b>0.0000</b>	<b>509.6580</b>	<b>509.6580</b>	<b>0.0275</b>	<b>0.0000</b>	<b>510.3454</b>

**3.3 Grading and Access Road Work - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.6245	0.0000	3.6245	1.6682	0.0000	1.6682	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6476	16.6237	9.2424	0.0262		0.6877	0.6877		0.6327	0.6327	0.0000	2,298.9142	2,298.9142	0.7435	0.0000	2,317.5021
<b>Total</b>	<b>1.6476</b>	<b>16.6237</b>	<b>9.2424</b>	<b>0.0262</b>	<b>3.6245</b>	<b>0.6877</b>	<b>4.3122</b>	<b>1.6682</b>	<b>0.6327</b>	<b>2.3009</b>	<b>0.0000</b>	<b>2,298.9142</b>	<b>2,298.9142</b>	<b>0.7435</b>	<b>0.0000</b>	<b>2,317.5021</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.3 Grading and Access Road Work - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0353	1.2062	0.1797	3.8100e-003	29.9894	4.5300e-003	29.9939	3.0045	4.3400e-003	3.0088	0.0000	362.5705	362.5705	0.0184	0.0000	363.0310
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1414	0.1260	1.1538	3.6400e-003	35.9573	2.4800e-003	35.9598	3.6478	2.2900e-003	3.6501	0.0000	328.7300	328.7300	9.5500e-003	0.0000	328.9688
<b>Total</b>	<b>0.1767</b>	<b>1.3322</b>	<b>1.3336</b>	<b>7.4500e-003</b>	<b>65.9467</b>	<b>7.0100e-003</b>	<b>65.9537</b>	<b>6.6523</b>	<b>6.6300e-003</b>	<b>6.6589</b>	<b>0.0000</b>	<b>691.3004</b>	<b>691.3004</b>	<b>0.0280</b>	<b>0.0000</b>	<b>691.9998</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.6310	0.0000	1.6310	0.7507	0.0000	0.7507	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3207	1.3895	12.0148	0.0262		0.0428	0.0428		0.0428	0.0428	0.0000	2,298.9115	2,298.9115	0.7435	0.0000	2,317.4993
<b>Total</b>	<b>0.3207</b>	<b>1.3895</b>	<b>12.0148</b>	<b>0.0262</b>	<b>1.6310</b>	<b>0.0428</b>	<b>1.6738</b>	<b>0.7507</b>	<b>0.0428</b>	<b>0.7934</b>	<b>0.0000</b>	<b>2,298.9115</b>	<b>2,298.9115</b>	<b>0.7435</b>	<b>0.0000</b>	<b>2,317.4993</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.3 Grading and Access Road Work - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0353	1.2062	0.1797	3.8100e-003	4.8530	4.5300e-003	4.8575	0.4962	4.3400e-003	0.5005	0.0000	362.5705	362.5705	0.0184	0.0000	363.0310
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1414	0.1260	1.1538	3.6400e-003	6.0525	2.4800e-003	6.0550	0.6637	2.2900e-003	0.6659	0.0000	328.7300	328.7300	9.5500e-003	0.0000	328.9688
<b>Total</b>	<b>0.1767</b>	<b>1.3322</b>	<b>1.3336</b>	<b>7.4500e-003</b>	<b>10.9055</b>	<b>7.0100e-003</b>	<b>10.9125</b>	<b>1.1598</b>	<b>6.6300e-003</b>	<b>1.1665</b>	<b>0.0000</b>	<b>691.3004</b>	<b>691.3004</b>	<b>0.0280</b>	<b>0.0000</b>	<b>691.9998</b>

**3.4 Foundations - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6512	0.0000	0.6512	0.3504	0.0000	0.3504	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1901	2.0075	1.2808	2.3300e-003		0.0980	0.0980		0.0901	0.0901	0.0000	204.4061	204.4061	0.0661	0.0000	206.0589
<b>Total</b>	<b>0.1901</b>	<b>2.0075</b>	<b>1.2808</b>	<b>2.3300e-003</b>	<b>0.6512</b>	<b>0.0980</b>	<b>0.7492</b>	<b>0.3504</b>	<b>0.0901</b>	<b>0.4406</b>	<b>0.0000</b>	<b>204.4061</b>	<b>204.4061</b>	<b>0.0661</b>	<b>0.0000</b>	<b>206.0589</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.4 Foundations - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1500e-003	6.2100e-003	0.0604	1.6000e-004	8.1908	1.2000e-004	8.1909	0.8194	1.1000e-004	0.8195	0.0000	14.5224	14.5224	4.6000e-004	0.0000	14.5340
<b>Total</b>	<b>8.1500e-003</b>	<b>6.2100e-003</b>	<b>0.0604</b>	<b>1.6000e-004</b>	<b>8.1908</b>	<b>1.2000e-004</b>	<b>8.1909</b>	<b>0.8194</b>	<b>1.1000e-004</b>	<b>0.8195</b>	<b>0.0000</b>	<b>14.5224</b>	<b>14.5224</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>14.5340</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2930	0.0000	0.2930	0.1577	0.0000	0.1577	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0312	0.2342	1.3929	2.3300e-003		3.8100e-003	3.8100e-003		3.8100e-003	3.8100e-003	0.0000	204.4059	204.4059	0.0661	0.0000	206.0586
<b>Total</b>	<b>0.0312</b>	<b>0.2342</b>	<b>1.3929</b>	<b>2.3300e-003</b>	<b>0.2930</b>	<b>3.8100e-003</b>	<b>0.2969</b>	<b>0.1577</b>	<b>3.8100e-003</b>	<b>0.1615</b>	<b>0.0000</b>	<b>204.4059</b>	<b>204.4059</b>	<b>0.0661</b>	<b>0.0000</b>	<b>206.0586</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.4 Foundations - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1500e-003	6.2100e-003	0.0604	1.6000e-004	1.3204	1.2000e-004	1.3205	0.1338	1.1000e-004	0.1339	0.0000	14.5224	14.5224	4.6000e-004	0.0000	14.5340
<b>Total</b>	<b>8.1500e-003</b>	<b>6.2100e-003</b>	<b>0.0604</b>	<b>1.6000e-004</b>	<b>1.3204</b>	<b>1.2000e-004</b>	<b>1.3205</b>	<b>0.1338</b>	<b>1.1000e-004</b>	<b>0.1339</b>	<b>0.0000</b>	<b>14.5224</b>	<b>14.5224</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>14.5340</b>

**3.5 Concrete Batch Plants - 2021**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1721	1.4878	1.2715	3.4700e-003		0.0607	0.0607		0.0577	0.0577	0.0000	297.4311	297.4311	0.0765	0.0000	299.3438
<b>Total</b>	<b>0.1721</b>	<b>1.4878</b>	<b>1.2715</b>	<b>3.4700e-003</b>		<b>0.0607</b>	<b>0.0607</b>		<b>0.0577</b>	<b>0.0577</b>	<b>0.0000</b>	<b>297.4311</b>	<b>297.4311</b>	<b>0.0765</b>	<b>0.0000</b>	<b>299.3438</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.5 Concrete Batch Plants - 2021**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0587	1.8635	0.3031	6.8000e-003	26.1955	8.4600e-003	26.2039	2.6399	8.0900e-003	2.6480	0.0000	646.3123	646.3123	0.0171	0.0000	646.7407
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1500e-003	6.2100e-003	0.0604	1.6000e-004	8.1908	1.2000e-004	8.1909	0.8194	1.1000e-004	0.8195	0.0000	14.5224	14.5224	4.6000e-004	0.0000	14.5340
<b>Total</b>	<b>0.0669</b>	<b>1.8698</b>	<b>0.3635</b>	<b>6.9600e-003</b>	<b>34.3863</b>	<b>8.5800e-003</b>	<b>34.3949</b>	<b>3.4593</b>	<b>8.2000e-003</b>	<b>3.4675</b>	<b>0.0000</b>	<b>660.8347</b>	<b>660.8347</b>	<b>0.0176</b>	<b>0.0000</b>	<b>661.2747</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0405	0.2746	1.6280	3.4700e-003		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	297.4308	297.4308	0.0765	0.0000	299.3435
<b>Total</b>	<b>0.0405</b>	<b>0.2746</b>	<b>1.6280</b>	<b>3.4700e-003</b>		<b>5.0500e-003</b>	<b>5.0500e-003</b>		<b>5.0500e-003</b>	<b>5.0500e-003</b>	<b>0.0000</b>	<b>297.4308</b>	<b>297.4308</b>	<b>0.0765</b>	<b>0.0000</b>	<b>299.3435</b>



Fountain Wind Project - First Year of Construction - Shasta County, Annual

**3.5 Concrete Batch Plants - 2021**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0587	1.8635	0.3031	6.8000e-003	4.3132	8.4600e-003	4.3217	0.4563	8.0900e-003	0.4644	0.0000	646.3123	646.3123	0.0171	0.0000	646.7407
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1500e-003	6.2100e-003	0.0604	1.6000e-004	1.3204	1.2000e-004	1.3205	0.1338	1.1000e-004	0.1339	0.0000	14.5224	14.5224	4.6000e-004	0.0000	14.5340
<b>Total</b>	<b>0.0669</b>	<b>1.8698</b>	<b>0.3635</b>	<b>6.9600e-003</b>	<b>5.6336</b>	<b>8.5800e-003</b>	<b>5.6422</b>	<b>0.5902</b>	<b>8.2000e-003</b>	<b>0.5983</b>	<b>0.0000</b>	<b>660.8347</b>	<b>660.8347</b>	<b>0.0176</b>	<b>0.0000</b>	<b>661.2747</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Fountain Wind Project - First Year of Construction - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2000e-004	5.1900e-003	7.1700e-003	3.0000e-005	2.1500e-003	3.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.9546	2.9546	1.3000e-004	0.0000	2.9579
Unmitigated	6.2000e-004	5.1900e-003	7.1700e-003	3.0000e-005	2.1500e-003	3.0000e-005	2.1800e-003	5.8000e-004	2.0000e-005	6.0000e-004	0.0000	2.9546	2.9546	1.3000e-004	0.0000	2.9579

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	1.50	1.50	1.50	5,795	5,795
Total	1.50	1.50	1.50	5,795	5,795

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.531326	0.031853	0.180854	0.102256	0.028681	0.006074	0.012848	0.095604	0.001329	0.001212	0.005444	0.001276	0.001244

5.0 Energy Detail

Historical Energy Use: N

Fountain Wind Project - First Year of Construction - Shasta County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.5658	2.5658	1.2000e-004	2.0000e-005	2.5759
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.5658	2.5658	1.2000e-004	2.0000e-005	2.5759
NaturalGas Mitigated	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
NaturalGas Unmitigated	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	20870	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
<b>Total</b>		<b>1.1000e-004</b>	<b>1.0200e-003</b>	<b>8.6000e-004</b>	<b>1.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.1137</b>	<b>1.1137</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1203</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**5.2 Energy by Land Use - Natural Gas**

**Mitigated**

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	20870	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
<b>Total</b>		<b>1.1000e-004</b>	<b>1.0200e-003</b>	<b>8.6000e-004</b>	<b>1.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.1137</b>	<b>1.1137</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1203</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
<b>Total</b>		<b>2.5658</b>	<b>1.2000e-004</b>	<b>2.0000e-005</b>	<b>2.5759</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
<b>Total</b>		<b>2.5658</b>	<b>1.2000e-004</b>	<b>2.0000e-005</b>	<b>2.5759</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
<b>Total</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
<b>Total</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>

**7.0 Water Detail**

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4374	7.5500e-003	1.8000e-004	0.6802
Unmitigated	0.4374	7.5500e-003	1.8000e-004	0.6802

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.23125 / 0	0.4374	7.5500e-003	1.8000e-004	0.6802
<b>Total</b>		<b>0.4374</b>	<b>7.5500e-003</b>	<b>1.8000e-004</b>	<b>0.6802</b>

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0.23125 / 0	0.4374	7.5500e-003	1.8000e-004	0.6802
<b>Total</b>		<b>0.4374</b>	<b>7.5500e-003</b>	<b>1.8000e-004</b>	<b>0.6802</b>

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2517	0.0149	0.0000	0.6236
Unmitigated	0.2517	0.0149	0.0000	0.6236



Fountain Wind Project - First Year of Construction - Shasta County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
<b>Total</b>		<b>0.2517</b>	<b>0.0149</b>	<b>0.0000</b>	<b>0.6236</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
<b>Total</b>		<b>0.2517</b>	<b>0.0149</b>	<b>0.0000</b>	<b>0.6236</b>

**9.0 Operational Offroad**

---

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

Fountain Wind Project - First Year of Construction - Shasta County, Annual

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**11.0 Vegetation**

---

Fountain Wind Project - Second Year - Shasta County, Summer

**Fountain Wind Project - Second Year**  
**Shasta County, Summer**

**1.0 Project Characteristics**

---

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.7	<b>Precipitation Freq (Days)</b>	82
<b>Climate Zone</b>	3			<b>Operational Year</b>	2023
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	641.35	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**

Fountain Wind Project - Second Year - Shasta County, Summer

Project Characteristics -

Land Use - Surrogate land use information, not used to estimate emissions.

Construction Phase - Construction phases provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment type and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Trips and VMT - Trips based on VMT obtained from Traffic Report.

On-road Fugitive Dust - Average dirt road travel for haul trucks is based on the distance from Highway 299 to the Substation, which is approximately the center of the site.

Vehicle Trips - Worker trips

Road Dust - 94% paved.

Water And Wastewater - Based on PD.

Construction Off-road Equipment Mitigation - Percent reduction for soil stabilizer for unpaved road obtained from South Coast AQMD Table XI-D.

Operational Off-Road Equipment - Per project description. Sweepers represents "mowing equipment."

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generated testing would be limited to 100 hours per year.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	17.00

Fountain Wind Project - Second Year - Shasta County, Summer

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	1.00	160.00
tblConstructionPhase	NumDays	1.00	140.00
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	100.00	15.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblOffRoadEquipment	HorsePower	231.00	350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00

Fountain Wind Project - Second Year - Shasta County, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	88.00
tblOnRoadDust	HaulingPercentPave	100.00	70.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	94.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblRoadDust	RoadPercentPave	100	94
tblTripsAndVMT	HaulingTripLength	20.00	258.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,336.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,116.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	50.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00

## Fountain Wind Project - Second Year - Shasta County, Summer

tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	18.00	130.00
tblTripsAndVMT	WorkerTripNumber	33.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblVehicleTrips	CC_TL	7.30	50.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	7.30	50.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	9.50	50.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	HO_TL	0.00	50.00
tblVehicleTrips	HS_TL	0.00	50.00
tblVehicleTrips	HW_TL	0.00	50.00
tblVehicleTrips	HW_TTP	0.00	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	24.00
tblVehicleTrips	SU_TR	1.50	24.00
tblVehicleTrips	WD_TR	1.50	24.00
tblWater	IndoorWaterUseRate	231,250.00	1,825,000.00

## 2.0 Emissions Summary

---





Fountain Wind Project - Second Year - Shasta County, Summer

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
Mobile	0.1679	1.2776	3.0380	0.0128	54.4759	0.0103	54.4862	5.5755	9.7100e-003	5.5852		1,302.0543	1,302.0543	0.0358		1,302.9493
Offroad	0.5335	5.5214	3.7530	8.3100e-003		0.2681	0.2681		0.2467	0.2467		804.9957	804.9957	0.2604		811.5045
Stationary	0.8796	2.4585	2.2428	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
<b>Total</b>	<b>1.6094</b>	<b>9.2631</b>	<b>9.0386</b>	<b>0.0254</b>	<b>54.4759</b>	<b>0.4083</b>	<b>54.8841</b>	<b>5.5755</b>	<b>0.3862</b>	<b>5.9617</b>		<b>2,563.7566</b>	<b>2,563.7566</b>	<b>0.3594</b>	<b>1.2000e-004</b>	<b>2,572.7775</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
Mobile	0.1679	1.2776	3.0380	0.0128	54.4759	0.0103	54.4862	5.5755	9.7100e-003	5.5852		1,302.0543	1,302.0543	0.0358		1,302.9493
Offroad	0.5335	5.5214	3.7530	8.3100e-003		0.2681	0.2681		0.2467	0.2467		804.9957	804.9957	0.2604		811.5045
Stationary	0.8796	2.4585	2.2428	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
<b>Total</b>	<b>1.6094</b>	<b>9.2631</b>	<b>9.0386</b>	<b>0.0254</b>	<b>54.4759</b>	<b>0.4083</b>	<b>54.8841</b>	<b>5.5755</b>	<b>0.3862</b>	<b>5.9617</b>		<b>2,563.7566</b>	<b>2,563.7566</b>	<b>0.3594</b>	<b>1.2000e-004</b>	<b>2,572.7775</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Fountain Wind Project - Second Year - Shasta County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Turbine and Transformer Installation	Building Construction	4/1/2022	8/18/2022	6	100	
2	Substation and O&M Building Installation	Site Preparation	4/15/2022	11/24/2022	6	160	
3	Underground Collector System	Site Preparation	4/30/2022	11/11/2022	6	140	
4	Overhead Collector System	Building Construction	7/4/2022	11/18/2022	6	100	
5	Transmission Line Connection	Building Construction	9/14/2022	10/11/2022	6	20	
6	Substation Aggregate and Security Fence	Building Construction	11/25/2022	12/15/2022	6	15	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Fountain Wind Project - Second Year - Shasta County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Turbine and Transformer Installation	Cranes	6	4.00	231	0.29
Turbine and Transformer Installation	Cranes	4	4.00	350	0.29
Turbine and Transformer Installation	Generator Sets	4	8.00	84	0.74
Turbine and Transformer Installation	Rough Terrain Forklifts	10	8.00	100	0.40
Turbine and Transformer Installation	Rubber Tired Dozers	2	8.00	247	0.40
Substation and O&M Building Installation	Cranes	2	4.00	231	0.29
Substation and O&M Building Installation	Rough Terrain Forklifts	3	8.00	100	0.40
Substation and O&M Building Installation	Skid Steer Loaders	2	8.00	65	0.37
Underground Collector System	Rough Terrain Forklifts	4	8.00	100	0.40
Underground Collector System	Rubber Tired Dozers	1	8.00	247	0.40
Underground Collector System	Skid Steer Loaders	4	8.00	65	0.37
Underground Collector System	Trenchers	4	8.00	78	0.50
Overhead Collector System	Aerial Lifts	6	8.00	63	0.31
Overhead Collector System	Cranes	2	4.00	231	0.29
Overhead Collector System	Other Construction Equipment	3	8.00	172	0.42
Overhead Collector System	Rubber Tired Dozers	1	8.00	247	0.40
Overhead Collector System	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Transmission Line Connection	Aerial Lifts	6	4.00	63	0.31
Transmission Line Connection	Cranes	6	4.00	231	0.29
Transmission Line Connection	Excavators	2	8.00	158	0.38
Transmission Line Connection	Other Construction Equipment	4	8.00	172	0.42
Transmission Line Connection	Rubber Tired Dozers	1	8.00	247	0.40
Substation Aggregate and Security Fence	Skid Steer Loaders	1	8.00	65	0.37

**Trips and VMT**

Fountain Wind Project - Second Year - Shasta County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Turbine and Transformer Installation	26	38.00	0.00	5,336.00	10.00	7.30	258.00	LD_Mix	HDT_Mix	HHDT
Substation and O&M Building Installation	7	130.00	0.00	364.00	50.00	7.30	50.00	LD_Mix	HDT_Mix	HHDT
Underground Collector System	13	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Overhead Collector System	16	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Transmission Line Connection	19	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Substation Aggregate and Security Fence	1	38.00	0.00	2,116.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Turbine and Transformer Installation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1659	67.0165	58.3483	0.1126		2.8798	2.8798		2.6964	2.6964		10,850.7965	10,850.7965	2.8218		10,921.3406
<b>Total</b>	<b>6.1659</b>	<b>67.0165</b>	<b>58.3483</b>	<b>0.1126</b>		<b>2.8798</b>	<b>2.8798</b>		<b>2.6964</b>	<b>2.6964</b>		<b>10,850.7965</b>	<b>10,850.7965</b>	<b>2.8218</b>		<b>10,921.3406</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.2 Turbine and Transformer Installation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5177	93.6606	18.9048	0.4557	348.0487	0.4995	348.5482	36.5876	0.4779	37.0655		47,754.7681	47,754.7681	0.3769		47,764.1905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	179.1648	1.9500e-003	179.1667	17.9145	1.8000e-003	17.9163		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>3.6733</b>	<b>93.7480</b>	<b>20.0143</b>	<b>0.4586</b>	<b>527.2134</b>	<b>0.5015</b>	<b>527.7149</b>	<b>54.5021</b>	<b>0.4797</b>	<b>54.9818</b>		<b>48,046.8396</b>	<b>48,046.8396</b>	<b>0.3856</b>		<b>48,056.4800</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3230	5.7330	65.6699	0.1126		0.1764	0.1764		0.1764	0.1764	0.0000	10,850.7965	10,850.7965	2.8218		10,921.3406
<b>Total</b>	<b>1.3230</b>	<b>5.7330</b>	<b>65.6699</b>	<b>0.1126</b>		<b>0.1764</b>	<b>0.1764</b>		<b>0.1764</b>	<b>0.1764</b>	<b>0.0000</b>	<b>10,850.7965</b>	<b>10,850.7965</b>	<b>2.8218</b>		<b>10,921.3406</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.2 Turbine and Transformer Installation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5177	93.6606	18.9048	0.4557	43.4534	0.4995	43.9529	6.1884	0.4779	6.6663		47,754.7681	47,754.7681	0.3769		47,764.1905
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	17.7392	1.9500e-003	17.7411	1.8039	1.8000e-003	1.8057		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>3.6733</b>	<b>93.7480</b>	<b>20.0143</b>	<b>0.4586</b>	<b>61.1926</b>	<b>0.5015</b>	<b>61.6941</b>	<b>7.9923</b>	<b>0.4797</b>	<b>8.4720</b>		<b>48,046.8396</b>	<b>48,046.8396</b>	<b>0.3856</b>		<b>48,056.4800</b>

**3.3 Substation and O&M Building Installation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.8478	10.4824	11.5319	0.0203		0.3976	0.3976		0.3658	0.3658		1,960.8763	1,960.8763	0.6342		1,976.7310
<b>Total</b>	<b>0.8478</b>	<b>10.4824</b>	<b>11.5319</b>	<b>0.0203</b>	<b>0.0000</b>	<b>0.3976</b>	<b>0.3976</b>	<b>0.0000</b>	<b>0.3658</b>	<b>0.3658</b>		<b>1,960.8763</b>	<b>1,960.8763</b>	<b>0.6342</b>		<b>1,976.7310</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.3 Substation and O&M Building Installation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0326	0.9600	0.1699	4.0300e-003	16.8198	4.2500e-003	16.8241	1.6929	4.0700e-003	1.6969		422.5447	422.5447	0.0103		422.8023
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.7861	1.3092	16.7015	0.0490	578.6362	0.0301	578.6663	58.5197	0.0277	58.5474		4,879.9206	4,879.9206	0.1374		4,883.3558
<b>Total</b>	<b>1.8187</b>	<b>2.2692</b>	<b>16.8715</b>	<b>0.0530</b>	<b>595.4560</b>	<b>0.0344</b>	<b>595.4904</b>	<b>60.2125</b>	<b>0.0318</b>	<b>60.2443</b>		<b>5,302.4653</b>	<b>5,302.4653</b>	<b>0.1477</b>		<b>5,306.1580</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2997	3.1819	13.5690	0.0203		0.0332	0.0332		0.0332	0.0332	0.0000	1,960.8763	1,960.8763	0.6342		1,976.7310
<b>Total</b>	<b>0.2997</b>	<b>3.1819</b>	<b>13.5690</b>	<b>0.0203</b>	<b>0.0000</b>	<b>0.0332</b>	<b>0.0332</b>	<b>0.0000</b>	<b>0.0332</b>	<b>0.0332</b>	<b>0.0000</b>	<b>1,960.8763</b>	<b>1,960.8763</b>	<b>0.6342</b>		<b>1,976.7310</b>



Fountain Wind Project - Second Year - Shasta County, Summer

**3.3 Substation and O&M Building Installation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0326	0.9600	0.1699	4.0300e-003	1.7194	4.2500e-003	1.7236	0.1858	4.0700e-003	0.1899		422.5447	422.5447	0.0103		422.8023
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.7861	1.3092	16.7015	0.0490	60.9061	0.0301	60.9362	6.8492	0.0277	6.8769		4,879.9206	4,879.9206	0.1374		4,883.3558
<b>Total</b>	<b>1.8187</b>	<b>2.2692</b>	<b>16.8715</b>	<b>0.0530</b>	<b>62.6255</b>	<b>0.0344</b>	<b>62.6598</b>	<b>7.0350</b>	<b>0.0318</b>	<b>7.0668</b>		<b>5,302.4653</b>	<b>5,302.4653</b>	<b>0.1477</b>		<b>5,306.1580</b>

**3.4 Underground Collector System - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	3.0184	31.9480	28.6802	0.0441		1.7198	1.7198		1.5822	1.5822		4,271.4160	4,271.4160	1.3815		4,305,9526
<b>Total</b>	<b>3.0184</b>	<b>31.9480</b>	<b>28.6802</b>	<b>0.0441</b>	<b>6.0221</b>	<b>1.7198</b>	<b>7.7419</b>	<b>3.3102</b>	<b>1.5822</b>	<b>4.8924</b>		<b>4,271.4160</b>	<b>4,271.4160</b>	<b>1.3815</b>		<b>4,305,9526</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.4 Underground Collector System - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	179.1648	1.9500e-003	179.1667	17.9145	1.8000e-003	17.9163		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>179.1648</b>	<b>1.9500e-003</b>	<b>179.1667</b>	<b>17.9145</b>	<b>1.8000e-003</b>	<b>17.9163</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.7099	0.0000	2.7099	1.4896	0.0000	1.4896			0.0000			0.0000
Off-Road	0.6426	6.5510	30.7324	0.0441		0.0721	0.0721		0.0721	0.0721	0.0000	4,271.4160	4,271.4160	1.3815		4,305,9526
<b>Total</b>	<b>0.6426</b>	<b>6.5510</b>	<b>30.7324</b>	<b>0.0441</b>	<b>2.7099</b>	<b>0.0721</b>	<b>2.7820</b>	<b>1.4896</b>	<b>0.0721</b>	<b>1.5617</b>	<b>0.0000</b>	<b>4,271.4160</b>	<b>4,271.4160</b>	<b>1.3815</b>		<b>4,305,9526</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.4 Underground Collector System - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	17.7392	1.9500e-003	17.7411	1.8039	1.8000e-003	1.8057		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>17.7392</b>	<b>1.9500e-003</b>	<b>17.7411</b>	<b>1.8039</b>	<b>1.8000e-003</b>	<b>1.8057</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**3.5 Overhead Collector System - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2133	34.4875	33.0508	0.0554		1.6112	1.6112		1.4823	1.4823		5,361.5343	5,361.5343	1.7340		5,404.8851
<b>Total</b>	<b>3.2133</b>	<b>34.4875</b>	<b>33.0508</b>	<b>0.0554</b>		<b>1.6112</b>	<b>1.6112</b>		<b>1.4823</b>	<b>1.4823</b>		<b>5,361.5343</b>	<b>5,361.5343</b>	<b>1.7340</b>		<b>5,404.8851</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.5 Overhead Collector System - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	179.1648	1.9500e-003	179.1667	17.9145	1.8000e-003	17.9163		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>179.1648</b>	<b>1.9500e-003</b>	<b>179.1667</b>	<b>17.9145</b>	<b>1.8000e-003</b>	<b>17.9163</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8047	8.0751	37.5904	0.0554		0.0908	0.0908		0.0908	0.0908	0.0000	5,361.5343	5,361.5343	1.7340		5,404.8851
<b>Total</b>	<b>0.8047</b>	<b>8.0751</b>	<b>37.5904</b>	<b>0.0554</b>		<b>0.0908</b>	<b>0.0908</b>		<b>0.0908</b>	<b>0.0908</b>	<b>0.0000</b>	<b>5,361.5343</b>	<b>5,361.5343</b>	<b>1.7340</b>		<b>5,404.8851</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.5 Overhead Collector System - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	17.7392	1.9500e-003	17.7411	1.8039	1.8000e-003	1.8057		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>17.7392</b>	<b>1.9500e-003</b>	<b>17.7411</b>	<b>1.8039</b>	<b>1.8000e-003</b>	<b>1.8057</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**3.6 Transmission Line Connection - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.9730	41.8417	35.1323	0.0659		1.9378	1.9378		1.7828	1.7828		6,384.7415	6,384.7415	2.0650		6,436.3654
<b>Total</b>	<b>3.9730</b>	<b>41.8417</b>	<b>35.1323</b>	<b>0.0659</b>		<b>1.9378</b>	<b>1.9378</b>		<b>1.7828</b>	<b>1.7828</b>		<b>6,384.7415</b>	<b>6,384.7415</b>	<b>2.0650</b>		<b>6,436.3654</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.6 Transmission Line Connection - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	179.1648	1.9500e-003	179.1667	17.9145	1.8000e-003	17.9163		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>179.1648</b>	<b>1.9500e-003</b>	<b>179.1667</b>	<b>17.9145</b>	<b>1.8000e-003</b>	<b>17.9163</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8741	6.0817	42.1475	0.0659		0.1083	0.1083		0.1083	0.1083	0.0000	6,384.7415	6,384.7415	2.0650		6,436.3654
<b>Total</b>	<b>0.8741</b>	<b>6.0817</b>	<b>42.1475</b>	<b>0.0659</b>		<b>0.1083</b>	<b>0.1083</b>		<b>0.1083</b>	<b>0.1083</b>	<b>0.0000</b>	<b>6,384.7415</b>	<b>6,384.7415</b>	<b>2.0650</b>		<b>6,436.3654</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.6 Transmission Line Connection - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	17.7392	1.9500e-003	17.7411	1.8039	1.8000e-003	1.8057		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>0.1556</b>	<b>0.0874</b>	<b>1.1095</b>	<b>2.9300e-003</b>	<b>17.7392</b>	<b>1.9500e-003</b>	<b>17.7411</b>	<b>1.8039</b>	<b>1.8000e-003</b>	<b>1.8057</b>		<b>292.0715</b>	<b>292.0715</b>	<b>8.7200e-003</b>		<b>292.2895</b>

**3.7 Substation Aggregate and Security Fence - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0696	0.9286	1.3872	2.0700e-003		0.0345	0.0345		0.0318	0.0318		200.3913	200.3913	0.0648		202.0115
<b>Total</b>	<b>0.0696</b>	<b>0.9286</b>	<b>1.3872</b>	<b>2.0700e-003</b>		<b>0.0345</b>	<b>0.0345</b>		<b>0.0318</b>	<b>0.0318</b>		<b>200.3913</b>	<b>200.3913</b>	<b>0.0648</b>		<b>202.0115</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**3.7 Substation Aggregate and Security Fence - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9700	32.3970	4.8490	0.1123	1,039.7177	0.1110	1,039.8287	104.0685	0.1062	104.1747		11,770.9576	11,770.9576	0.5873		11,785.6391
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	179.1648	1.9500e-003	179.1667	17.9145	1.8000e-003	17.9163		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>1.1256</b>	<b>32.4844</b>	<b>5.9585</b>	<b>0.1153</b>	<b>1,218.8825</b>	<b>0.1130</b>	<b>1,218.9954</b>	<b>121.9830</b>	<b>0.1080</b>	<b>122.0910</b>		<b>12,063.0291</b>	<b>12,063.0291</b>	<b>0.5960</b>		<b>12,077.9286</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0509	1.1622	1.5694	2.0700e-003		3.3900e-003	3.3900e-003		3.3900e-003	3.3900e-003	0.0000	200.3913	200.3913	0.0648		202.0115
<b>Total</b>	<b>0.0509</b>	<b>1.1622</b>	<b>1.5694</b>	<b>2.0700e-003</b>		<b>3.3900e-003</b>	<b>3.3900e-003</b>		<b>3.3900e-003</b>	<b>3.3900e-003</b>	<b>0.0000</b>	<b>200.3913</b>	<b>200.3913</b>	<b>0.0648</b>		<b>202.0115</b>



Fountain Wind Project - Second Year - Shasta County, Summer

**3.7 Substation Aggregate and Security Fence - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9700	32.3970	4.8490	0.1123	103.3784	0.1110	103.4894	10.6200	0.1062	10.7262		11,770.9576	11,770.9576	0.5873		11,785.6391
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1556	0.0874	1.1095	2.9300e-003	17.7392	1.9500e-003	17.7411	1.8039	1.8000e-003	1.8057		292.0715	292.0715	8.7200e-003		292.2895
<b>Total</b>	<b>1.1256</b>	<b>32.4844</b>	<b>5.9585</b>	<b>0.1153</b>	<b>121.1176</b>	<b>0.1130</b>	<b>121.2306</b>	<b>12.4239</b>	<b>0.1080</b>	<b>12.5319</b>		<b>12,063.0291</b>	<b>12,063.0291</b>	<b>0.5960</b>		<b>12,077.9286</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Fountain Wind Project - Second Year - Shasta County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1679	1.2776	3.0380	0.0128	54.4759	0.0103	54.4862	5.5755	9.7100e-003	5.5852		1,302.0543	1,302.0543	0.0358		1,302.9493
Unmitigated	0.1679	1.2776	3.0380	0.0128	54.4759	0.0103	54.4862	5.5755	9.7100e-003	5.5852		1,302.0543	1,302.0543	0.0358		1,302.9493

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	24.00	24.00	24.00	436,800	436,800
Total	24.00	24.00	24.00	436,800	436,800

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	50.00	50.00	50.00	0.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.531326	0.031853	0.180854	0.102256	0.028681	0.006074	0.012848	0.095604	0.001329	0.001212	0.005444	0.001276	0.001244

5.0 Energy Detail

Historical Energy Use: N

Fountain Wind Project - Second Year - Shasta County, Summer

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
NaturalGas Unmitigated	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	57.1781	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
<b>Total</b>		<b>6.2000e-004</b>	<b>5.6100e-003</b>	<b>4.7100e-003</b>	<b>3.0000e-005</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>6.7268</b>	<b>6.7268</b>	<b>1.3000e-004</b>	<b>1.2000e-004</b>	<b>6.7668</b>

Fountain Wind Project - Second Year - Shasta County, Summer

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0.0571781	6.2000e-004	5.6100e-003	4.7100e-003	3.0000e-005		4.3000e-004	4.3000e-004		4.3000e-004	4.3000e-004		6.7268	6.7268	1.3000e-004	1.2000e-004	6.7668
<b>Total</b>		<b>6.2000e-004</b>	<b>5.6100e-003</b>	<b>4.7100e-003</b>	<b>3.0000e-005</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>4.3000e-004</b>	<b>4.3000e-004</b>		<b>6.7268</b>	<b>6.7268</b>	<b>1.3000e-004</b>	<b>1.2000e-004</b>	<b>6.7668</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0278	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Fountain Wind Project - Second Year - Shasta County, Summer

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.0278</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	6.3500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
<b>Total</b>	<b>0.0278</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.2000e-004</b>	<b>2.2000e-004</b>	<b>0.0000</b>		<b>2.3000e-004</b>

**7.0 Water Detail**

Fountain Wind Project - Second Year - Shasta County, Summer

**7.1 Mitigation Measures Water**

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Cranes	2	4.00	260	231	0.29	Diesel
Sweepers/Scrubbers	2	4.00	260	64	0.46	Diesel

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Cranes	0.3514	3.8155	1.8344	5.7700e-003		0.1593	0.1593		0.1466	0.1466		558.8192	558.8192	0.1807		563.3376
Sweepers/Scrubbers	0.1820	1.7059	1.9186	2.5400e-003		0.1088	0.1088		0.1001	0.1001		246.1764	246.1764	0.0796		248.1669
<b>Total</b>	<b>0.5335</b>	<b>5.5214</b>	<b>3.7530</b>	<b>8.3100e-003</b>		<b>0.2681</b>	<b>0.2681</b>		<b>0.2467</b>	<b>0.2467</b>		<b>804.9956</b>	<b>804.9956</b>	<b>0.2604</b>		<b>811.5045</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Fountain Wind Project - Second Year - Shasta County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	2	100	268	0.73	Diesel

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

**10.1 Stationary Sources**

**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (175 - 300 HP)	0.8796	2.4585	2.2428	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
<b>Total</b>	<b>0.8796</b>	<b>2.4585</b>	<b>2.2428</b>	<b>4.2300e-003</b>		<b>0.1294</b>	<b>0.1294</b>		<b>0.1294</b>	<b>0.1294</b>		<b>449.9796</b>	<b>449.9796</b>	<b>0.0631</b>		<b>451.5568</b>

**11.0 Vegetation**

---

Fountain Wind Project - Second Year - Shasta County, Annual

**Fountain Wind Project - Second Year  
Shasta County, Annual**

**1.0 Project Characteristics**

---

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.7	<b>Precipitation Freq (Days)</b>	82
<b>Climate Zone</b>	3			<b>Operational Year</b>	2023
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	641.35	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

**1.3 User Entered Comments & Non-Default Data**



Fountain Wind Project - Second Year - Shasta County, Annual

Project Characteristics -

Land Use - Surrogate land use information, not used to estimate emissions.

Construction Phase - Construction phases provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment type and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Off-road Equipment - Equipment types and unit amounts provided by the applicant.

Trips and VMT - Trips based on VMT obtained from Traffic Report.

On-road Fugitive Dust - Average dirt road travel for haul trucks is based on the distance from Highway 299 to the Substation, which is approximately the center of the site.

Vehicle Trips - Worker trips

Road Dust - 94% paved.

Water And Wastewater - Based on PD.

Construction Off-road Equipment Mitigation - Percent reduction for soil stabilizer for unpaved road obtained from South Coast AQMD Table XI-D.

Operational Off-Road Equipment - Per project description. Sweepers represents "mowing equipment."

Stationary Sources - Emergency Generators and Fire Pumps - Emergency generated testing would be limited to 100 hours per year.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	20.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	17.00

Fountain Wind Project - Second Year - Shasta County, Annual

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	20.00
tblConstructionPhase	NumDays	100.00	15.00
tblConstructionPhase	NumDays	1.00	160.00
tblConstructionPhase	NumDays	1.00	140.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblOffRoadEquipment	HorsePower	231.00	350.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00

Fountain Wind Project - Second Year - Shasta County, Annual

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	88.00
tblOnRoadDust	HaulingPercentPave	100.00	70.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	94.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOnRoadDust	WorkerPercentPave	100.00	68.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblRoadDust	RoadPercentPave	100	94
tblTripsAndVMT	HaulingTripLength	20.00	258.00
tblTripsAndVMT	HaulingTripLength	20.00	50.00
tblTripsAndVMT	HaulingTripNumber	0.00	5,336.00
tblTripsAndVMT	HaulingTripNumber	0.00	364.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,116.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	50.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripLength	10.80	10.00

## Fountain Wind Project - Second Year - Shasta County, Annual

tblTripsAndVMT	WorkerTripLength	10.80	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	18.00	130.00
tblTripsAndVMT	WorkerTripNumber	33.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblTripsAndVMT	WorkerTripNumber	0.00	38.00
tblVehicleTrips	CC_TL	7.30	50.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TL	7.30	50.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	9.50	50.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	HO_TL	0.00	50.00
tblVehicleTrips	HS_TL	0.00	50.00
tblVehicleTrips	HW_TL	0.00	50.00
tblVehicleTrips	HW_TTP	0.00	100.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	24.00
tblVehicleTrips	SU_TR	1.50	24.00
tblVehicleTrips	WD_TR	1.50	24.00
tblWater	IndoorWaterUseRate	231,250.00	1,825,000.00

## 2.0 Emissions Summary

---



Fountain Wind Project - Second Year - Shasta County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-1-2022	6-30-2022	8.0979	4.5220
2	7-1-2022	9-30-2022	7.3617	3.1861
		Highest	8.0979	4.5220

**2.2 Overall Operational**  
**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	3.6795	3.6795	1.4000e-004	4.0000e-005	3.6962
Mobile	0.0272	0.2436	0.4579	2.1800e-003	9.9070	1.8800e-003	9.9089	1.0129	1.7700e-003	1.0146	0.0000	201.1752	201.1752	5.5100e-003	0.0000	201.3128
Offroad	0.0694	0.7178	0.4879	1.0800e-003		0.0349	0.0349		0.0321	0.0321	0.0000	94.9364	94.9364	0.0307	0.0000	95.7040
Stationary	0.0220	0.0615	0.0561	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.5790	2.8728	3.4518	0.0596	1.4300e-003	5.3682
<b>Total</b>	<b>0.1237</b>	<b>1.0238</b>	<b>1.0027</b>	<b>3.3800e-003</b>	<b>9.9070</b>	<b>0.0401</b>	<b>9.9470</b>	<b>1.0129</b>	<b>0.0372</b>	<b>1.0500</b>	<b>0.8307</b>	<b>312.8693</b>	<b>313.7000</b>	<b>0.1123</b>	<b>1.4700e-003</b>	<b>316.9459</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	3.6795	3.6795	1.4000e-004	4.0000e-005	3.6962
Mobile	0.0272	0.2436	0.4579	2.1800e-003	9.9070	1.8800e-003	9.9089	1.0129	1.7700e-003	1.0146	0.0000	201.1752	201.1752	5.5100e-003	0.0000	201.3128
Offroad	0.0694	0.7178	0.4879	1.0800e-003		0.0349	0.0349		0.0321	0.0321	0.0000	94.9364	94.9364	0.0307	0.0000	95.7040
Stationary	0.0220	0.0615	0.0561	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.5790	2.8728	3.4518	0.0596	1.4300e-003	5.3682
<b>Total</b>	<b>0.1237</b>	<b>1.0238</b>	<b>1.0027</b>	<b>3.3800e-003</b>	<b>9.9070</b>	<b>0.0401</b>	<b>9.9470</b>	<b>1.0129</b>	<b>0.0372</b>	<b>1.0500</b>	<b>0.8307</b>	<b>312.8693</b>	<b>313.7000</b>	<b>0.1123</b>	<b>1.4700e-003</b>	<b>316.9459</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

**3.0 Construction Detail**

**Construction Phase**

Fountain Wind Project - Second Year - Shasta County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Turbine and Transformer Installation	Building Construction	4/1/2022	8/18/2022	6	100	
2	Substation and O&M Building Installation	Site Preparation	4/15/2022	11/24/2022	6	160	
3	Underground Collector System	Site Preparation	4/30/2022	11/11/2022	6	140	
4	Overhead Collector System	Building Construction	7/4/2022	11/18/2022	6	100	
5	Transmission Line Connection	Building Construction	9/14/2022	10/11/2022	6	20	
6	Substation Aggregate and Security Fence	Building Construction	11/25/2022	12/15/2022	6	15	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**



Fountain Wind Project - Second Year - Shasta County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Turbine and Transformer Installation	Cranes	6	4.00	231	0.29
Turbine and Transformer Installation	Cranes	4	4.00	350	0.29
Turbine and Transformer Installation	Generator Sets	4	8.00	84	0.74
Turbine and Transformer Installation	Rough Terrain Forklifts	10	8.00	100	0.40
Turbine and Transformer Installation	Rubber Tired Dozers	2	8.00	247	0.40
Substation and O&M Building Installation	Cranes	2	4.00	231	0.29
Substation and O&M Building Installation	Rough Terrain Forklifts	3	8.00	100	0.40
Substation and O&M Building Installation	Skid Steer Loaders	2	8.00	65	0.37
Underground Collector System	Rough Terrain Forklifts	4	8.00	100	0.40
Underground Collector System	Rubber Tired Dozers	1	8.00	247	0.40
Underground Collector System	Skid Steer Loaders	4	8.00	65	0.37
Underground Collector System	Trenchers	4	8.00	78	0.50
Overhead Collector System	Aerial Lifts	6	8.00	63	0.31
Overhead Collector System	Cranes	2	4.00	231	0.29
Overhead Collector System	Other Construction Equipment	3	8.00	172	0.42
Overhead Collector System	Rubber Tired Dozers	1	8.00	247	0.40
Overhead Collector System	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Transmission Line Connection	Aerial Lifts	6	4.00	63	0.31
Transmission Line Connection	Cranes	6	4.00	231	0.29
Transmission Line Connection	Excavators	2	8.00	158	0.38
Transmission Line Connection	Other Construction Equipment	4	8.00	172	0.42
Transmission Line Connection	Rubber Tired Dozers	1	8.00	247	0.40
Substation Aggregate and Security Fence	Skid Steer Loaders	1	8.00	65	0.37

**Trips and VMT**

Fountain Wind Project - Second Year - Shasta County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Turbine and Transformer Installation	26	38.00	0.00	5,336.00	10.00	7.30	258.00	LD_Mix	HDT_Mix	HHDT
Substation and O&M Building Installation	7	130.00	0.00	364.00	50.00	7.30	50.00	LD_Mix	HDT_Mix	HHDT
Underground Collector System	13	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Overhead Collector System	16	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Transmission Line Connection	19	38.00	0.00	0.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Substation Aggregate and Security Fence	1	38.00	0.00	2,116.00	10.00	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Turbine and Transformer Installation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3700	4.0210	3.5009	6.7600e-003		0.1728	0.1728		0.1618	0.1618	0.0000	590.6206	590.6206	0.1536	0.0000	594.4604
<b>Total</b>	<b>0.3700</b>	<b>4.0210</b>	<b>3.5009</b>	<b>6.7600e-003</b>		<b>0.1728</b>	<b>0.1728</b>		<b>0.1618</b>	<b>0.1618</b>	<b>0.0000</b>	<b>590.6206</b>	<b>590.6206</b>	<b>0.1536</b>	<b>0.0000</b>	<b>594.4604</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.2 Turbine and Transformer Installation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2114	5.9066	1.1365	0.0273	16.3062	0.0300	16.3362	1.7349	0.0287	1.7636	0.0000	2,596.9352	2,596.9352	0.0212	0.0000	2,597.4647
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-003	5.6200e-003	0.0557	1.6000e-004	8.3371	1.2000e-004	8.3372	0.8340	1.1000e-004	0.8341	0.0000	14.2469	14.2469	4.2000e-004	0.0000	14.2574
<b>Total</b>	<b>0.2191</b>	<b>5.9122</b>	<b>1.1922</b>	<b>0.0275</b>	<b>24.6433</b>	<b>0.0301</b>	<b>24.6734</b>	<b>2.5689</b>	<b>0.0288</b>	<b>2.5977</b>	<b>0.0000</b>	<b>2,611.1821</b>	<b>2,611.1821</b>	<b>0.0216</b>	<b>0.0000</b>	<b>2,611.7220</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0794	0.3440	3.9402	6.7600e-003		0.0106	0.0106		0.0106	0.0106	0.0000	590.6199	590.6199	0.1536	0.0000	594.4597
<b>Total</b>	<b>0.0794</b>	<b>0.3440</b>	<b>3.9402</b>	<b>6.7600e-003</b>		<b>0.0106</b>	<b>0.0106</b>		<b>0.0106</b>	<b>0.0106</b>	<b>0.0000</b>	<b>590.6199</b>	<b>590.6199</b>	<b>0.1536</b>	<b>0.0000</b>	<b>594.4597</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.2 Turbine and Transformer Installation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2114	5.9066	1.1365	0.0273	2.1363	0.0300	2.1663	0.3207	0.0287	0.3494	0.0000	2,596.935 2	2,596.935 2	0.0212	0.0000	2,597.464 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-003	5.6200e-003	0.0557	1.6000e-004	0.8275	1.2000e-004	0.8276	0.0846	1.1000e-004	0.0847	0.0000	14.2469	14.2469	4.2000e-004	0.0000	14.2574
<b>Total</b>	<b>0.2191</b>	<b>5.9122</b>	<b>1.1922</b>	<b>0.0275</b>	<b>2.9638</b>	<b>0.0301</b>	<b>2.9939</b>	<b>0.4053</b>	<b>0.0288</b>	<b>0.4341</b>	<b>0.0000</b>	<b>2,611.182 1</b>	<b>2,611.182 1</b>	<b>0.0216</b>	<b>0.0000</b>	<b>2,611.722 0</b>

**3.3 Substation and O&M Building Installation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0814	1.0063	1.1071	1.9400e-003		0.0382	0.0382		0.0351	0.0351	0.0000	170.7722	170.7722	0.0552	0.0000	172.1530
<b>Total</b>	<b>0.0814</b>	<b>1.0063</b>	<b>1.1071</b>	<b>1.9400e-003</b>	<b>0.0000</b>	<b>0.0382</b>	<b>0.0382</b>	<b>0.0000</b>	<b>0.0351</b>	<b>0.0351</b>	<b>0.0000</b>	<b>170.7722</b>	<b>170.7722</b>	<b>0.0552</b>	<b>0.0000</b>	<b>172.1530</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.3 Substation and O&M Building Installation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0957	0.0167	3.9000e-004	1.2534	4.1000e-004	1.2538	0.1264	3.9000e-004	0.1268	0.0000	36.6350	36.6350	9.4000e-004	0.0000	36.6586
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1585	0.1348	1.2607	4.2000e-003	43.1488	2.8900e-003	43.1516	4.3773	2.6600e-003	4.3800	0.0000	380.1682	380.1682	0.0102	0.0000	380.4221
<b>Total</b>	<b>0.1616</b>	<b>0.2304</b>	<b>1.2774</b>	<b>4.5900e-003</b>	<b>44.4021</b>	<b>3.3000e-003</b>	<b>44.4054</b>	<b>4.5037</b>	<b>3.0500e-003</b>	<b>4.5068</b>	<b>0.0000</b>	<b>416.8032</b>	<b>416.8032</b>	<b>0.0111</b>	<b>0.0000</b>	<b>417.0807</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0288	0.3055	1.3026	1.9400e-003		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003	0.0000	170.7720	170.7720	0.0552	0.0000	172.1528
<b>Total</b>	<b>0.0288</b>	<b>0.3055</b>	<b>1.3026</b>	<b>1.9400e-003</b>	<b>0.0000</b>	<b>3.1800e-003</b>	<b>3.1800e-003</b>	<b>0.0000</b>	<b>3.1800e-003</b>	<b>3.1800e-003</b>	<b>0.0000</b>	<b>170.7720</b>	<b>170.7720</b>	<b>0.0552</b>	<b>0.0000</b>	<b>172.1528</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.3 Substation and O&M Building Installation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.1500e-003	0.0957	0.0167	3.9000e-004	0.1294	4.1000e-004	0.1298	0.0142	3.9000e-004	0.0146	0.0000	36.6350	36.6350	9.4000e-004	0.0000	36.6586
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1585	0.1348	1.2607	4.2000e-003	4.6126	2.8900e-003	4.6155	0.5313	2.6600e-003	0.5340	0.0000	380.1682	380.1682	0.0102	0.0000	380.4221
<b>Total</b>	<b>0.1616</b>	<b>0.2304</b>	<b>1.2774</b>	<b>4.5900e-003</b>	<b>4.7420</b>	<b>3.3000e-003</b>	<b>4.7453</b>	<b>0.5456</b>	<b>3.0500e-003</b>	<b>0.5486</b>	<b>0.0000</b>	<b>416.8032</b>	<b>416.8032</b>	<b>0.0111</b>	<b>0.0000</b>	<b>417.0807</b>

**3.4 Underground Collector System - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.5059	0.0000	0.5059	0.2781	0.0000	0.2781	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2536	2.6836	2.4091	3.7000e-003		0.1445	0.1445		0.1329	0.1329	0.0000	325.4969	325.4969	0.1053	0.0000	328.1287
<b>Total</b>	<b>0.2536</b>	<b>2.6836</b>	<b>2.4091</b>	<b>3.7000e-003</b>	<b>0.5059</b>	<b>0.1445</b>	<b>0.6503</b>	<b>0.2781</b>	<b>0.1329</b>	<b>0.4110</b>	<b>0.0000</b>	<b>325.4969</b>	<b>325.4969</b>	<b>0.1053</b>	<b>0.0000</b>	<b>328.1287</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.4 Underground Collector System - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0108	7.8700e-003	0.0780	2.2000e-004	11.6719	1.6000e-004	11.6721	1.1676	1.5000e-004	1.1678	0.0000	19.9457	19.9457	5.8000e-004	0.0000	19.9603
<b>Total</b>	<b>0.0108</b>	<b>7.8700e-003</b>	<b>0.0780</b>	<b>2.2000e-004</b>	<b>11.6719</b>	<b>1.6000e-004</b>	<b>11.6721</b>	<b>1.1676</b>	<b>1.5000e-004</b>	<b>1.1678</b>	<b>0.0000</b>	<b>19.9457</b>	<b>19.9457</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>19.9603</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2276	0.0000	0.2276	0.1251	0.0000	0.1251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0540	0.5503	2.5815	3.7000e-003		6.0600e-003	6.0600e-003		6.0600e-003	6.0600e-003	0.0000	325.4965	325.4965	0.1053	0.0000	328.1284
<b>Total</b>	<b>0.0540</b>	<b>0.5503</b>	<b>2.5815</b>	<b>3.7000e-003</b>	<b>0.2276</b>	<b>6.0600e-003</b>	<b>0.2337</b>	<b>0.1251</b>	<b>6.0600e-003</b>	<b>0.1312</b>	<b>0.0000</b>	<b>325.4965</b>	<b>325.4965</b>	<b>0.1053</b>	<b>0.0000</b>	<b>328.1284</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.4 Underground Collector System - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0108	7.8700e-003	0.0780	2.2000e-004	1.1585	1.6000e-004	1.1586	0.1184	1.5000e-004	0.1185	0.0000	19.9457	19.9457	5.8000e-004	0.0000	19.9603
<b>Total</b>	<b>0.0108</b>	<b>7.8700e-003</b>	<b>0.0780</b>	<b>2.2000e-004</b>	<b>1.1585</b>	<b>1.6000e-004</b>	<b>1.1586</b>	<b>0.1184</b>	<b>1.5000e-004</b>	<b>0.1185</b>	<b>0.0000</b>	<b>19.9457</b>	<b>19.9457</b>	<b>5.8000e-004</b>	<b>0.0000</b>	<b>19.9603</b>

**3.5 Overhead Collector System - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1912	2.0520	1.9665	3.2900e-003		0.0959	0.0959		0.0882	0.0882	0.0000	289.4022	289.4022	0.0936	0.0000	291.7421
<b>Total</b>	<b>0.1912</b>	<b>2.0520</b>	<b>1.9665</b>	<b>3.2900e-003</b>		<b>0.0959</b>	<b>0.0959</b>		<b>0.0882</b>	<b>0.0882</b>	<b>0.0000</b>	<b>289.4022</b>	<b>289.4022</b>	<b>0.0936</b>	<b>0.0000</b>	<b>291.7421</b>



Fountain Wind Project - Second Year - Shasta County, Annual

**3.5 Overhead Collector System - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6400e-003	5.5700e-003	0.0553	1.6000e-004	8.2676	1.2000e-004	8.2677	0.8271	1.1000e-004	0.8272	0.0000	14.1282	14.1282	4.1000e-004	0.0000	14.1386
<b>Total</b>	<b>7.6400e-003</b>	<b>5.5700e-003</b>	<b>0.0553</b>	<b>1.6000e-004</b>	<b>8.2676</b>	<b>1.2000e-004</b>	<b>8.2677</b>	<b>0.8271</b>	<b>1.1000e-004</b>	<b>0.8272</b>	<b>0.0000</b>	<b>14.1282</b>	<b>14.1282</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>14.1386</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0479	0.4805	2.2366	3.2900e-003		5.4000e-003	5.4000e-003		5.4000e-003	5.4000e-003	0.0000	289.4018	289.4018	0.0936	0.0000	291.7418
<b>Total</b>	<b>0.0479</b>	<b>0.4805</b>	<b>2.2366</b>	<b>3.2900e-003</b>		<b>5.4000e-003</b>	<b>5.4000e-003</b>		<b>5.4000e-003</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>289.4018</b>	<b>289.4018</b>	<b>0.0936</b>	<b>0.0000</b>	<b>291.7418</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.5 Overhead Collector System - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.6400e-003	5.5700e-003	0.0553	1.6000e-004	0.8206	1.2000e-004	0.8207	0.0838	1.1000e-004	0.0840	0.0000	14.1282	14.1282	4.1000e-004	0.0000	14.1386
<b>Total</b>	<b>7.6400e-003</b>	<b>5.5700e-003</b>	<b>0.0553</b>	<b>1.6000e-004</b>	<b>0.8206</b>	<b>1.2000e-004</b>	<b>0.8207</b>	<b>0.0838</b>	<b>1.1000e-004</b>	<b>0.0840</b>	<b>0.0000</b>	<b>14.1282</b>	<b>14.1282</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>14.1386</b>

**3.6 Transmission Line Connection - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0477	0.5021	0.4216	7.9000e-004		0.0233	0.0233		0.0214	0.0214	0.0000	69.5057	69.5057	0.0225	0.0000	70.0677
<b>Total</b>	<b>0.0477</b>	<b>0.5021</b>	<b>0.4216</b>	<b>7.9000e-004</b>		<b>0.0233</b>	<b>0.0233</b>		<b>0.0214</b>	<b>0.0214</b>	<b>0.0000</b>	<b>69.5057</b>	<b>69.5057</b>	<b>0.0225</b>	<b>0.0000</b>	<b>70.0677</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.6 Transmission Line Connection - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.1200e-003	0.0111	3.0000e-005	1.6674	2.0000e-005	1.6674	0.1668	2.0000e-005	0.1668	0.0000	2.8494	2.8494	8.0000e-005	0.0000	2.8515
<b>Total</b>	<b>1.5400e-003</b>	<b>1.1200e-003</b>	<b>0.0111</b>	<b>3.0000e-005</b>	<b>1.6674</b>	<b>2.0000e-005</b>	<b>1.6674</b>	<b>0.1668</b>	<b>2.0000e-005</b>	<b>0.1668</b>	<b>0.0000</b>	<b>2.8494</b>	<b>2.8494</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>2.8515</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0730	0.5058	7.9000e-004		1.3000e-003	1.3000e-003		1.3000e-003	1.3000e-003	0.0000	69.5056	69.5056	0.0225	0.0000	70.0676
<b>Total</b>	<b>0.0105</b>	<b>0.0730</b>	<b>0.5058</b>	<b>7.9000e-004</b>		<b>1.3000e-003</b>	<b>1.3000e-003</b>		<b>1.3000e-003</b>	<b>1.3000e-003</b>	<b>0.0000</b>	<b>69.5056</b>	<b>69.5056</b>	<b>0.0225</b>	<b>0.0000</b>	<b>70.0676</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.6 Transmission Line Connection - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5400e-003	1.1200e-003	0.0111	3.0000e-005	0.1655	2.0000e-005	0.1655	0.0169	2.0000e-005	0.0169	0.0000	2.8494	2.8494	8.0000e-005	0.0000	2.8515
<b>Total</b>	<b>1.5400e-003</b>	<b>1.1200e-003</b>	<b>0.0111</b>	<b>3.0000e-005</b>	<b>0.1655</b>	<b>2.0000e-005</b>	<b>0.1655</b>	<b>0.0169</b>	<b>2.0000e-005</b>	<b>0.0169</b>	<b>0.0000</b>	<b>2.8494</b>	<b>2.8494</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>2.8515</b>

**3.7 Substation Aggregate and Security Fence - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3000e-004	8.3600e-003	0.0125	2.0000e-005		3.1000e-004	3.1000e-004		2.9000e-004	2.9000e-004	0.0000	1.6361	1.6361	5.3000e-004	0.0000	1.6494
<b>Total</b>	<b>6.3000e-004</b>	<b>8.3600e-003</b>	<b>0.0125</b>	<b>2.0000e-005</b>		<b>3.1000e-004</b>	<b>3.1000e-004</b>		<b>2.9000e-004</b>	<b>2.9000e-004</b>	<b>0.0000</b>	<b>1.6361</b>	<b>1.6361</b>	<b>5.3000e-004</b>	<b>0.0000</b>	<b>1.6494</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.7 Substation Aggregate and Security Fence - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8700e-003	0.2984	0.0462	1.0000e-003	7.2581	1.0100e-003	7.2591	0.7271	9.7000e-004	0.7280	0.0000	95.1508	95.1508	5.0700e-003	0.0000	95.2774
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1600e-003	8.4000e-004	8.3600e-003	2.0000e-005	1.2506	2.0000e-005	1.2506	0.1251	2.0000e-005	0.1251	0.0000	2.1370	2.1370	6.0000e-005	0.0000	2.1386
<b>Total</b>	<b>0.0100</b>	<b>0.2993</b>	<b>0.0546</b>	<b>1.0200e-003</b>	<b>8.5087</b>	<b>1.0300e-003</b>	<b>8.5097</b>	<b>0.8522</b>	<b>9.9000e-004</b>	<b>0.8531</b>	<b>0.0000</b>	<b>97.2878</b>	<b>97.2878</b>	<b>5.1300e-003</b>	<b>0.0000</b>	<b>97.4160</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6000e-004	0.0105	0.0141	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6361	1.6361	5.3000e-004	0.0000	1.6494
<b>Total</b>	<b>4.6000e-004</b>	<b>0.0105</b>	<b>0.0141</b>	<b>2.0000e-005</b>		<b>3.0000e-005</b>	<b>3.0000e-005</b>		<b>3.0000e-005</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>1.6361</b>	<b>1.6361</b>	<b>5.3000e-004</b>	<b>0.0000</b>	<b>1.6494</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**3.7 Substation Aggregate and Security Fence - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.8700e-003	0.2984	0.0462	1.0000e-003	0.7243	1.0100e-003	0.7253	0.0750	9.7000e-004	0.0759	0.0000	95.1508	95.1508	5.0700e-003	0.0000	95.2774
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1600e-003	8.4000e-004	8.3600e-003	2.0000e-005	0.1241	2.0000e-005	0.1241	0.0127	2.0000e-005	0.0127	0.0000	2.1370	2.1370	6.0000e-005	0.0000	2.1386
<b>Total</b>	<b>0.0100</b>	<b>0.2993</b>	<b>0.0546</b>	<b>1.0200e-003</b>	<b>0.8484</b>	<b>1.0300e-003</b>	<b>0.8494</b>	<b>0.0876</b>	<b>9.9000e-004</b>	<b>0.0886</b>	<b>0.0000</b>	<b>97.2878</b>	<b>97.2878</b>	<b>5.1300e-003</b>	<b>0.0000</b>	<b>97.4160</b>

**4.0 Operational Detail - Mobile**

---

**4.1 Mitigation Measures Mobile**

Fountain Wind Project - Second Year - Shasta County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0272	0.2436	0.4579	2.1800e-003	9.9070	1.8800e-003	9.9089	1.0129	1.7700e-003	1.0146	0.0000	201.1752	201.1752	5.5100e-003	0.0000	201.3128
Unmitigated	0.0272	0.2436	0.4579	2.1800e-003	9.9070	1.8800e-003	9.9089	1.0129	1.7700e-003	1.0146	0.0000	201.1752	201.1752	5.5100e-003	0.0000	201.3128

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	24.00	24.00	24.00	436,800	436,800
Total	24.00	24.00	24.00	436,800	436,800

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	50.00	50.00	50.00	0.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.531326	0.031853	0.180854	0.102256	0.028681	0.006074	0.012848	0.095604	0.001329	0.001212	0.005444	0.001276	0.001244

5.0 Energy Detail

Historical Energy Use: N

Fountain Wind Project - Second Year - Shasta County, Annual

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.5658	2.5658	1.2000e-004	2.0000e-005	2.5759
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.5658	2.5658	1.2000e-004	2.0000e-005	2.5759
NaturalGas Mitigated	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
NaturalGas Unmitigated	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	20870	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
<b>Total</b>		<b>1.1000e-004</b>	<b>1.0200e-003</b>	<b>8.6000e-004</b>	<b>1.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.1137</b>	<b>1.1137</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1203</b>



Fountain Wind Project - Second Year - Shasta County, Annual

**5.2 Energy by Land Use - NaturalGas**

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy Industry	20870	1.1000e-004	1.0200e-003	8.6000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1137	1.1137	2.0000e-005	2.0000e-005	1.1203
<b>Total</b>		<b>1.1000e-004</b>	<b>1.0200e-003</b>	<b>8.6000e-004</b>	<b>1.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>		<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.1137</b>	<b>1.1137</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1203</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
<b>Total</b>		<b>2.5658</b>	<b>1.2000e-004</b>	<b>2.0000e-005</b>	<b>2.5759</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
<b>Total</b>		<b>2.5658</b>	<b>1.2000e-004</b>	<b>2.0000e-005</b>	<b>2.5759</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	5.0700e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Fountain Wind Project - Second Year - Shasta County, Annual

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
<b>Total</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>

**Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
<b>Total</b>	<b>5.0700e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.0000e-005</b>

**7.0 Water Detail**

Fountain Wind Project - Second Year - Shasta County, Annual

**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.4518	0.0596	1.4300e-003	5.3682
Unmitigated	3.4518	0.0596	1.4300e-003	5.3682

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	1.825 / 0	3.4518	0.0596	1.4300e-003	5.3682
<b>Total</b>		<b>3.4518</b>	<b>0.0596</b>	<b>1.4300e-003</b>	<b>5.3682</b>

Fountain Wind Project - Second Year - Shasta County, Annual

**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	1.825 / 0	3.4518	0.0596	1.4300e-003	5.3682
<b>Total</b>		<b>3.4518</b>	<b>0.0596</b>	<b>1.4300e-003</b>	<b>5.3682</b>

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2517	0.0149	0.0000	0.6236
Unmitigated	0.2517	0.0149	0.0000	0.6236

Fountain Wind Project - Second Year - Shasta County, Annual

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
<b>Total</b>		<b>0.2517</b>	<b>0.0149</b>	<b>0.0000</b>	<b>0.6236</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	1.24	0.2517	0.0149	0.0000	0.6236
<b>Total</b>		<b>0.2517</b>	<b>0.0149</b>	<b>0.0000</b>	<b>0.6236</b>

**9.0 Operational Offroad**

---

Fountain Wind Project - Second Year - Shasta County, Annual

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Cranes	2	4.00	260	231	0.29	Diesel
Sweepers/Scrubbers	2	4.00	260	64	0.46	Diesel

**UnMitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Cranes	0.0457	0.4960	0.2385	7.5000e-004		0.0207	0.0207		0.0191	0.0191	0.0000	65.9038	65.9038	0.0213	0.0000	66.4367
Sweepers/Scrubbers	0.0237	0.2218	0.2494	3.3000e-004		0.0141	0.0141		0.0130	0.0130	0.0000	29.0326	29.0326	9.3900e-003	0.0000	29.2673
<b>Total</b>	<b>0.0694</b>	<b>0.7178</b>	<b>0.4879</b>	<b>1.0800e-003</b>		<b>0.0349</b>	<b>0.0349</b>		<b>0.0321</b>	<b>0.0321</b>	<b>0.0000</b>	<b>94.9364</b>	<b>94.9364</b>	<b>0.0307</b>	<b>0.0000</b>	<b>95.7040</b>

**10.0 Stationary Equipment**

**Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	2	100	268	0.73	Diesel

**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

**User Defined Equipment**

Equipment Type	Number
----------------	--------

Fountain Wind Project - Second Year - Shasta County, Annual

**10.1 Stationary Sources**

**Unmitigated/Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (175 - 300 HP)	0.0220	0.0615	0.0561	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
<b>Total</b>	<b>0.0220</b>	<b>0.0615</b>	<b>0.0561</b>	<b>1.1000e-004</b>		<b>3.2300e-003</b>	<b>3.2300e-003</b>		<b>3.2300e-003</b>	<b>3.2300e-003</b>	<b>0.0000</b>	<b>10.2054</b>	<b>10.2054</b>	<b>1.4300e-003</b>	<b>0.0000</b>	<b>10.2411</b>

**11.0 Vegetation**

---